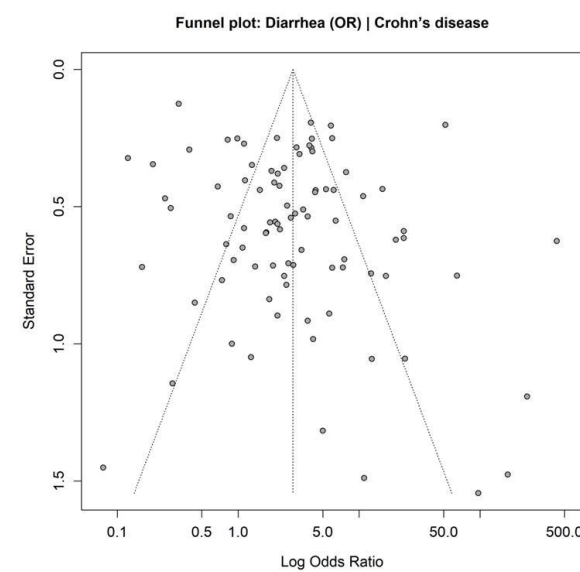
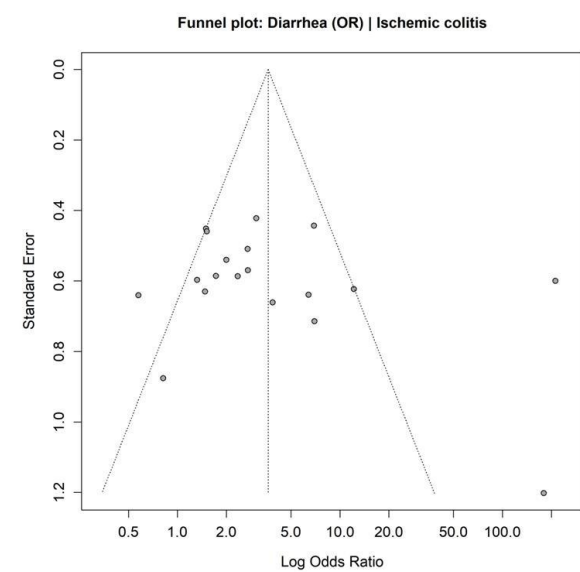
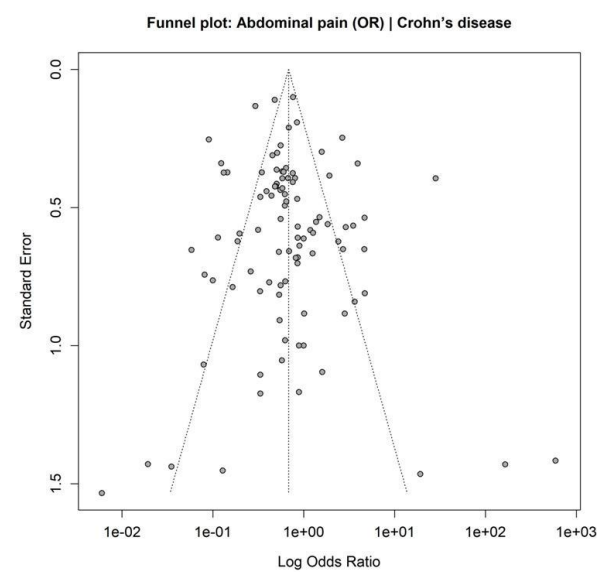
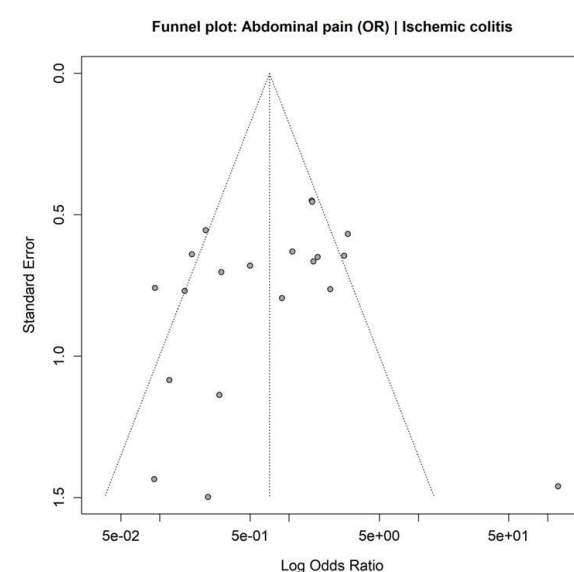
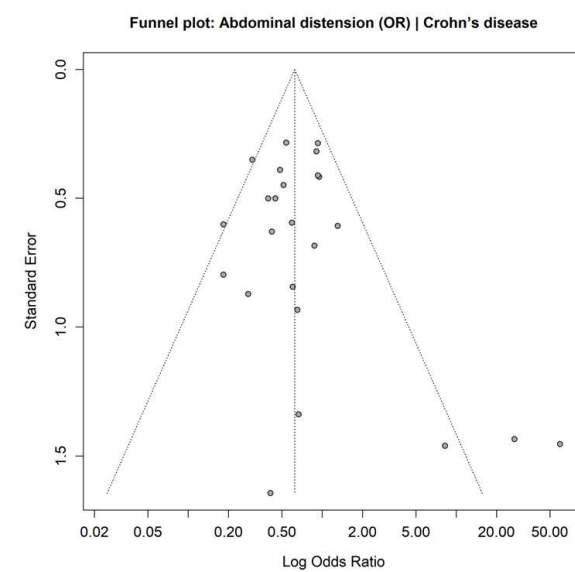
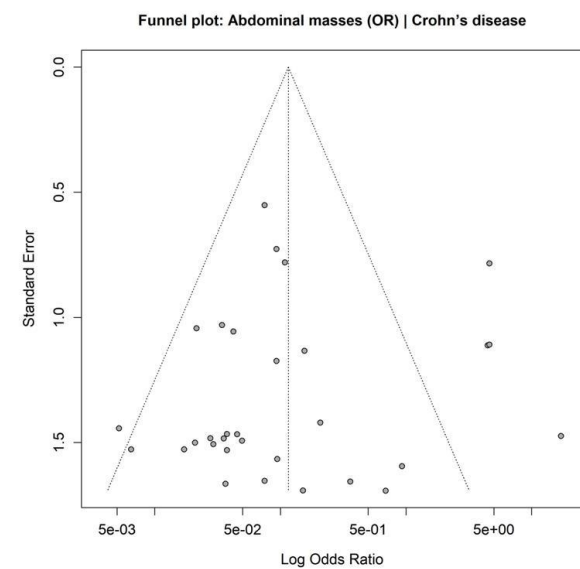
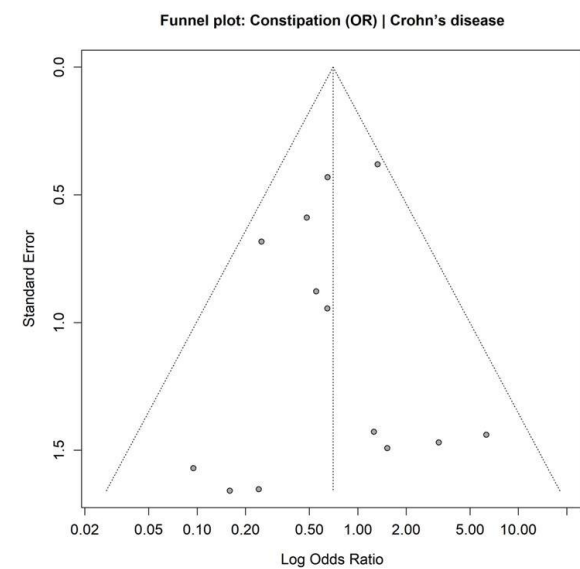
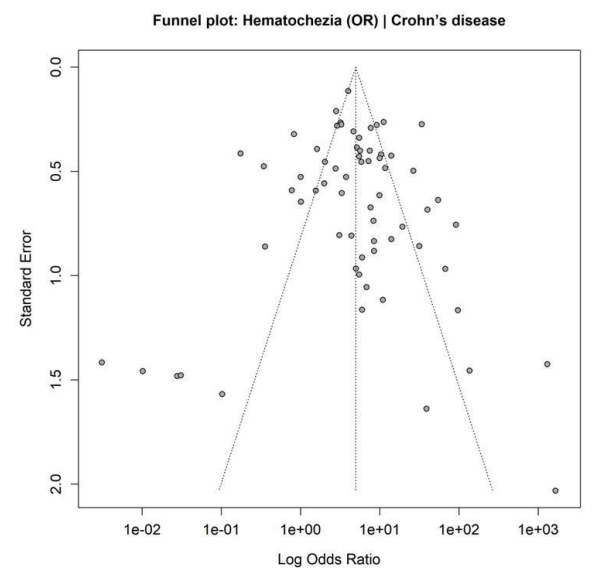
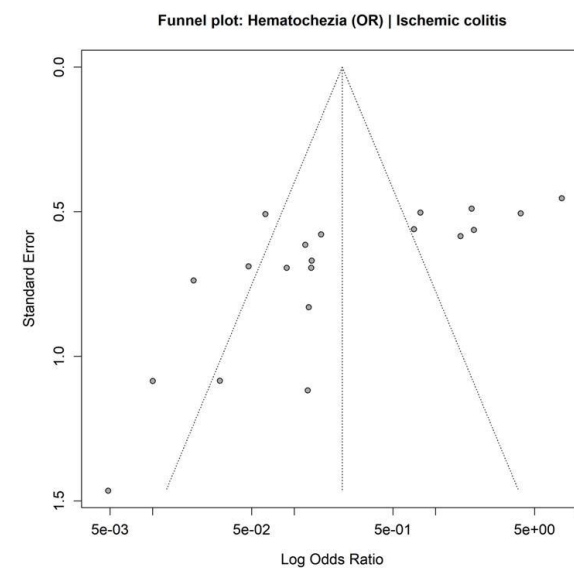
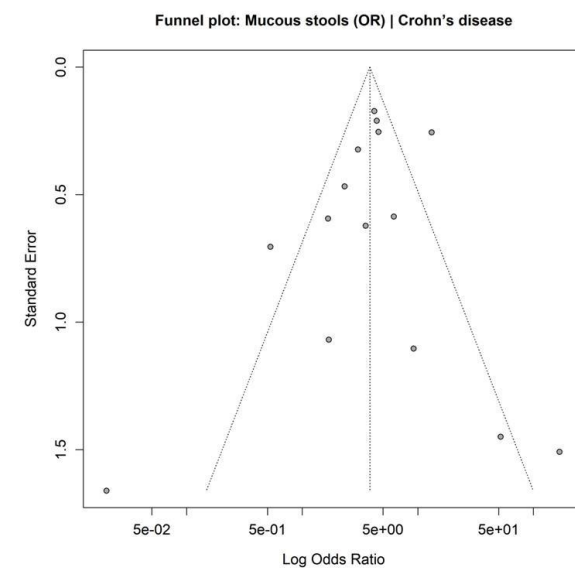
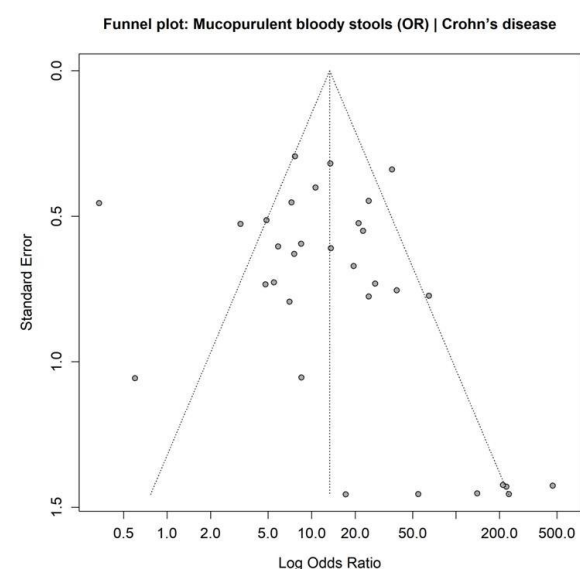
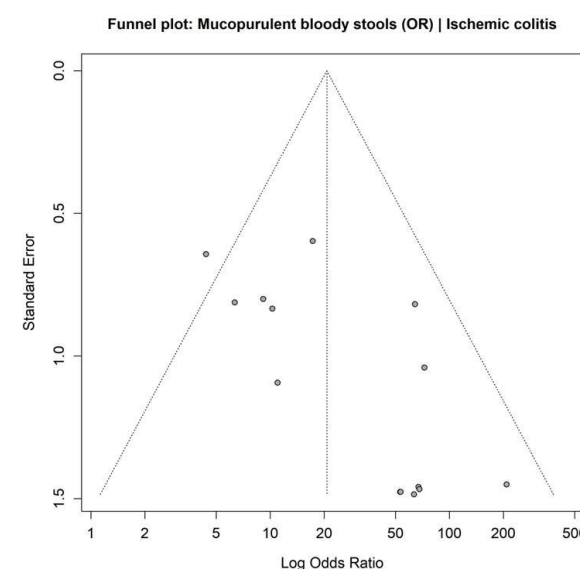
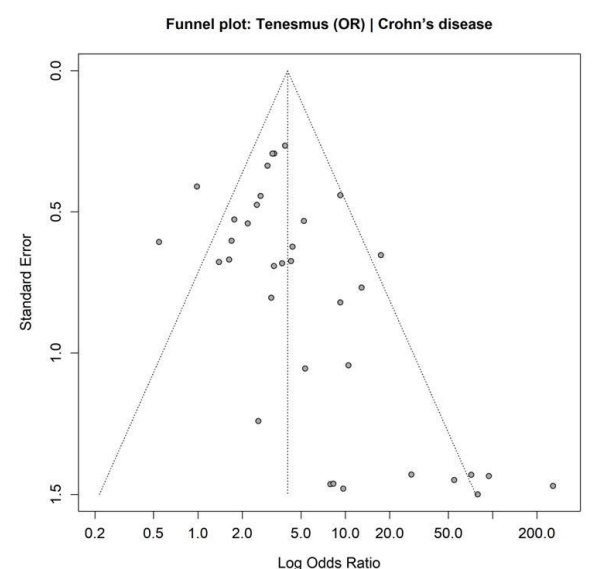
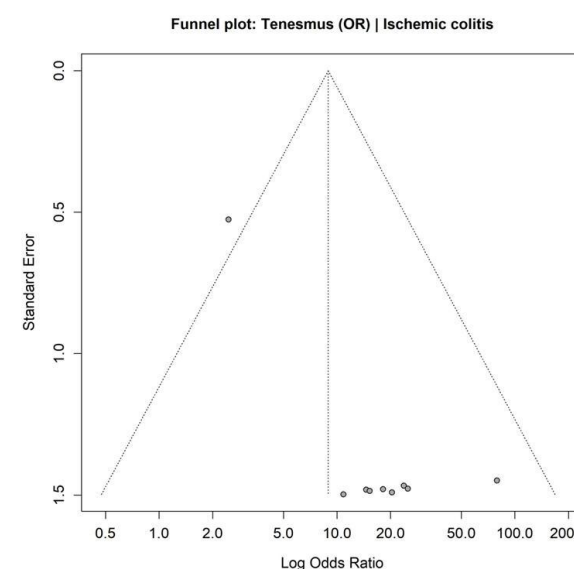
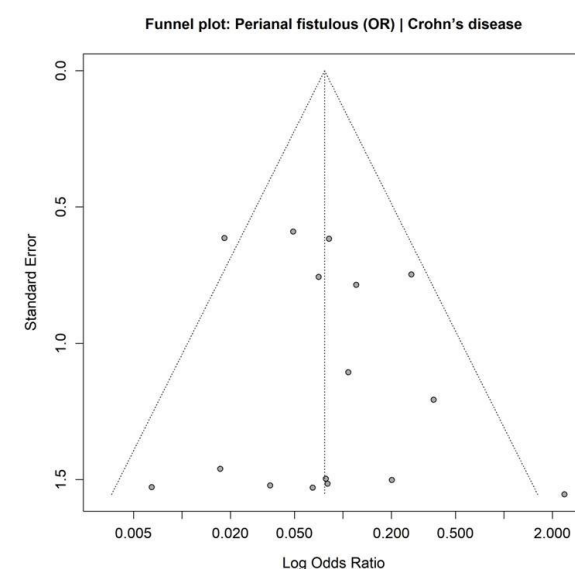
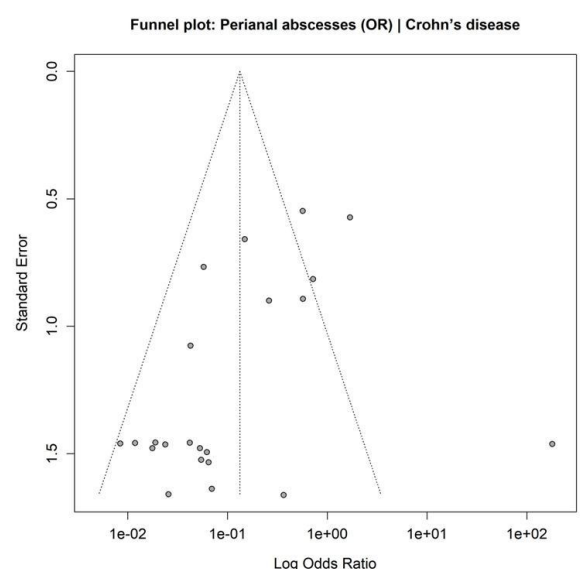
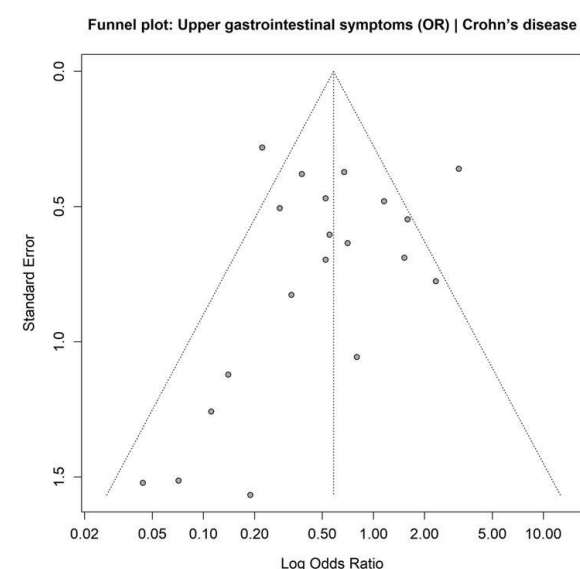


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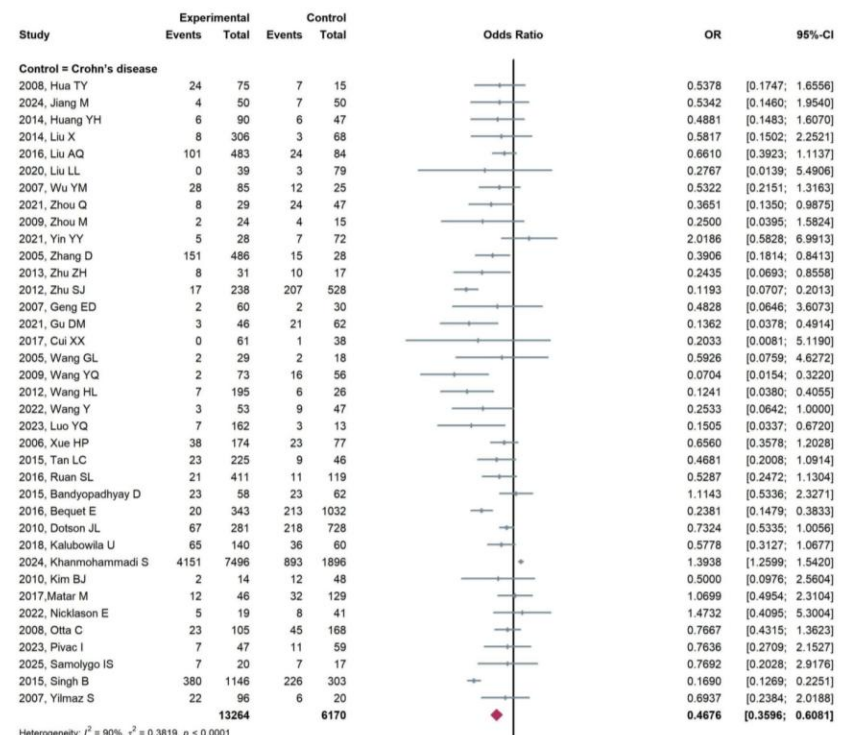


Supplementary Figure 1 Forest plots. A: Forest plot of diarrhea in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, irritable bowel syndrome, infectious enteritis, inflammatory bowel disease unclassified, and unspecified diseases; B: Forest plot of abdominal pain in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, irritable bowel syndrome, infectious enteritis, inflammatory bowel disease unclassified, and unspecified diseases; C: Forest plot of abdominal distension in ulcerative colitis compared to Crohn's disease, intestinal tuberculosis, irritable bowel syndrome, infectious enteritis, inflammatory bowel disease unclassified, and unspecified diseases; D Forest plot of abdominal masses in ulcerative colitis compared to Crohn's disease, intestinal tuberculosis, and unspecified diseases, E: Forest plot of constipation in ulcerative colitis compared to Crohn's disease, ischemic colitis, inflammatory bowel disease unclassified, and unspecified diseases; F: Forest plot of hematochezia in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, irritable bowel syndrome, infectious enteritis, inflammatory bowel disease unclassified, and unspecified diseases; G: Forest plot of mucous stools in ulcerative colitis compared to Crohn's disease, ischemic colitis, irritable bowel syndrome, infectious enteritis, inflammatory bowel disease unclassified, and unspecified diseases; H: Forest plot of bloody mucopurulent stools in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, inflammatory bowel disease unclassified, and unspecified diseases. I: Forest plot of tenesmus in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, irritable bowel syndrome, infectious enteritis, inflammatory bowel disease unclassified, and unspecified diseases. J: Forest plot of perianal fistulae in ulcerative colitis compared to Crohn's disease. K: Forest plot of perianal abscesses in ulcerative colitis compared to Crohn's disease, and inflammatory bowel disease unclassified. L: Forest plot of upper gastrointestinal symptoms in ulcerative colitis compared to Crohn's disease, ischemic colitis, infectious enteritis, inflammatory bowel disease unclassified, and unspecified diseases.

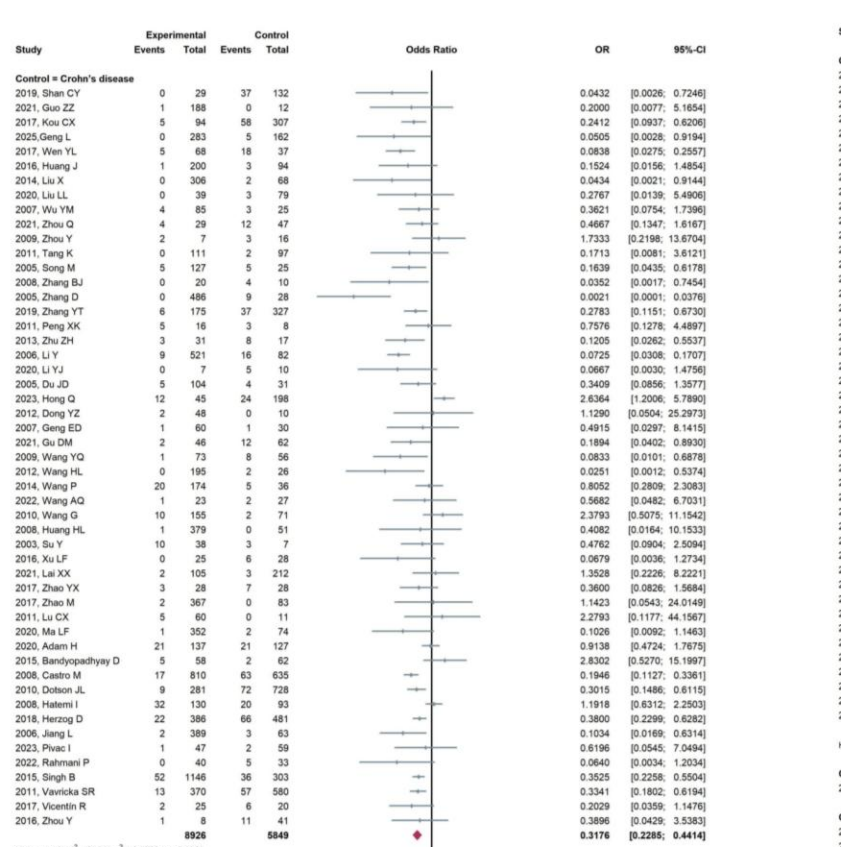
A**B****C****D****E****F****G****H****I****J****K****L****M****N****O****P****Q**

Supplementary Figure 2 Funnel plots. A: Funnel plot of diarrhea for Ulcerative colitis VS. Crohn's disease; B: Funnel plot of diarrhea for Ulcerative colitis VS. Ischemic colitis; C: Funnel plot of abdominal pain for Ulcerative colitis VS. Crohn's disease; D: Funnel plot of abdominal pain for Ulcerative colitis VS. Ischemic colitis; E: Funnel plot of abdominal distension for Ulcerative colitis VS. Crohn's disease; F: Funnel plot of abdominal masses for Ulcerative colitis VS. Crohn's disease; G: Funnel plot of constipation for Ulcerative colitis VS. Crohn's disease; H: Funnel plot of hematochezia for Ulcerative colitis VS. Crohn's disease; I: Funnel plot of hematochezia for Ulcerative colitis VS. Ischemic colitis; J: Funnel plot of mucous stools for Ulcerative colitis VS. Crohn's disease; K: Funnel plot of mucopurulent bloody stools for Ulcerative colitis VS. Crohn's disease; L: Funnel plot of mucopurulent bloody stools for Ulcerative colitis VS. Ischemic colitis; M: Funnel plot of tenesmus for Ulcerative colitis VS. Crohn's disease; N: Funnel plot of tenesmus for Ulcerative colitis VS. Ischemic colitis; O: Funnel plot of perianal fistulous for Ulcerative colitis VS. Crohn's disease; P: Funnel plot of perianal abscesses for Ulcerative colitis VS. Crohn's disease; Q: Funnel plot of upper gastrointestinal symptoms for Ulcerative colitis VS. Crohn's disease.

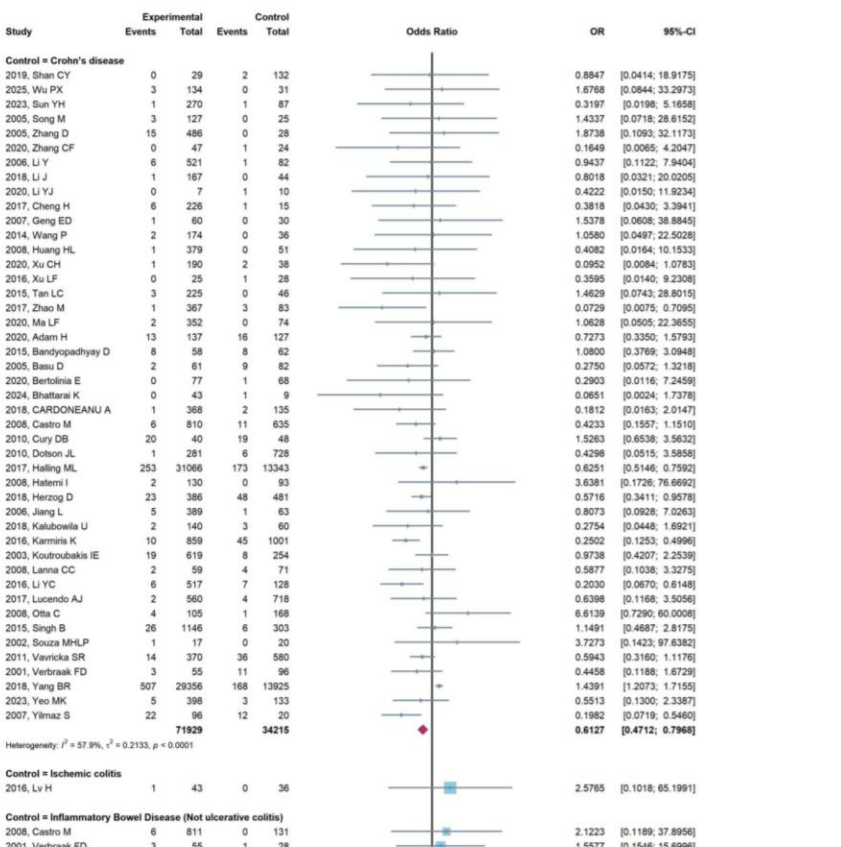
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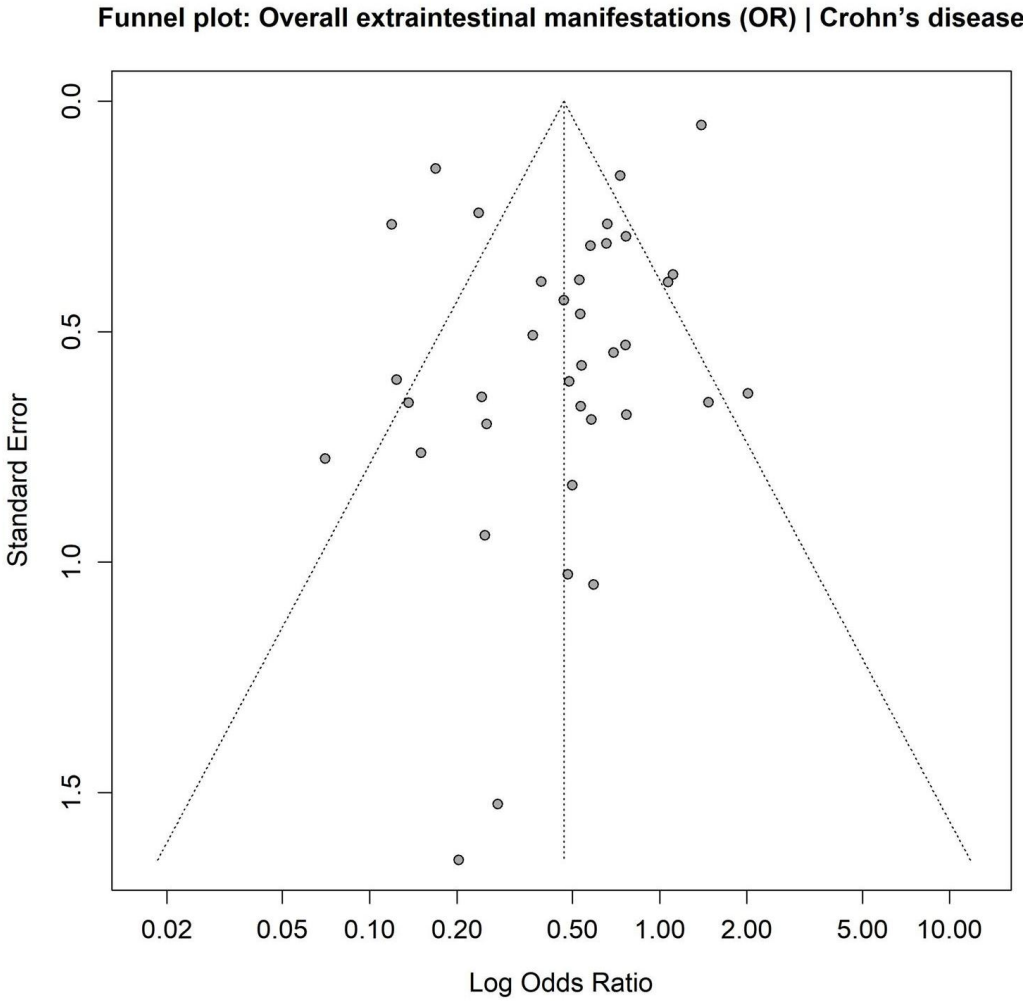


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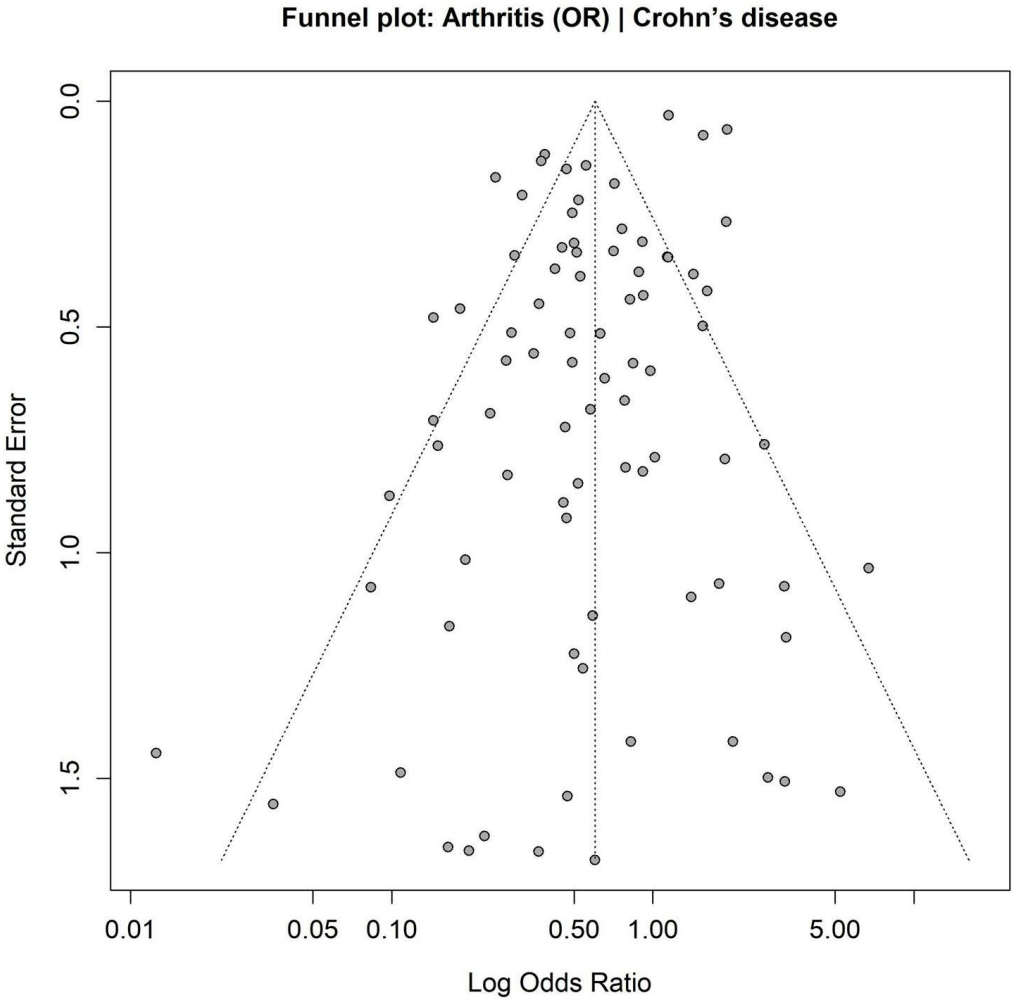


Supplementary Figure 3 Forest plots. A: Forest plot of overall extraintestinal manifestations in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis B: Forest plot of arthritis in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, inflammatory bowel disease unclassified, unspecified diseases, and healthy controls. C: Forest plot of oral lesions in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, inflammatory bowel disease unclassified, unspecified diseases, and healthy controls. D: Forest plot of dermatological manifestations in ulcerative colitis compared to Crohn's disease, intestinal tuberculosis, inflammatory bowel disease unclassified, unspecified diseases, and healthy controls. E: Forest plot of ocular involvement in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, inflammatory bowel disease unclassified, and healthy controls. F: Forest plot of Hepatobiliary involvement in ulcerative colitis compared to Crohn's disease, intestinal tuberculosis, inflammatory bowel disease unclassified, unspecified diseases, and healthy controls.

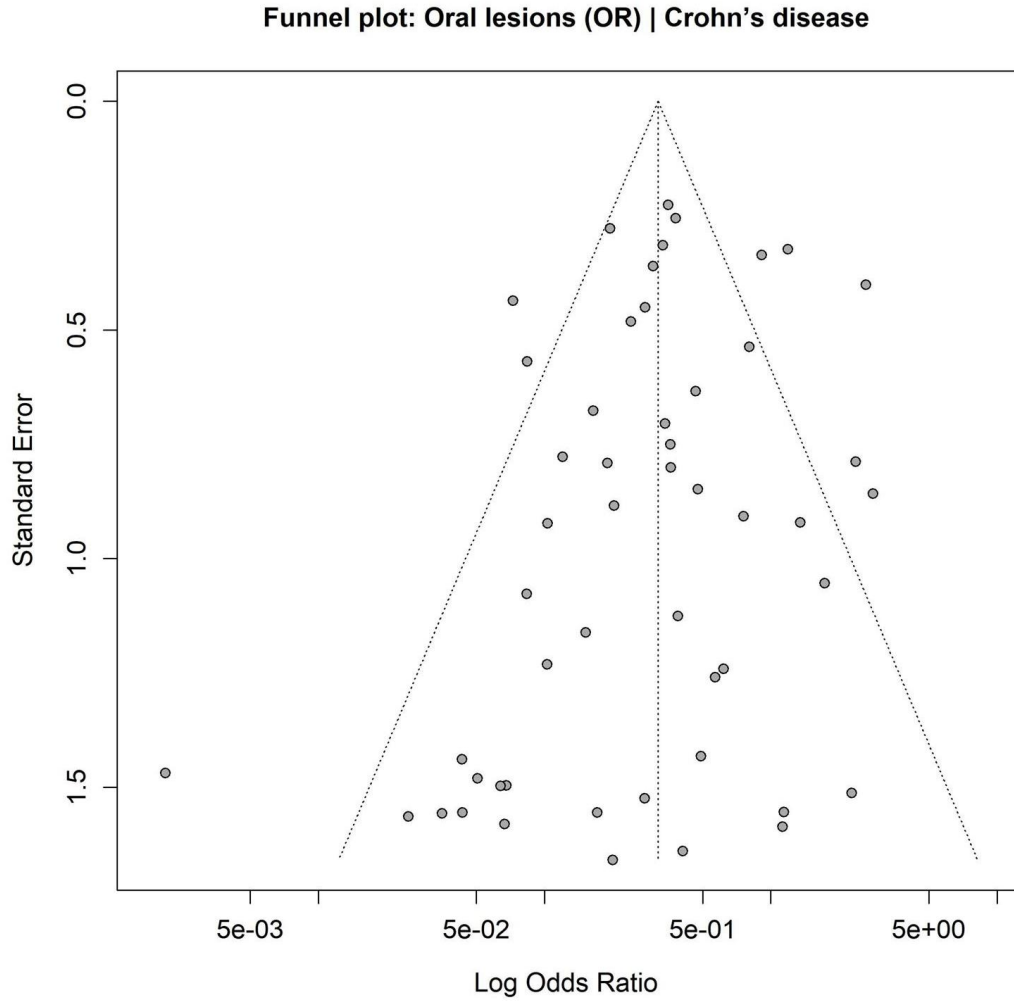
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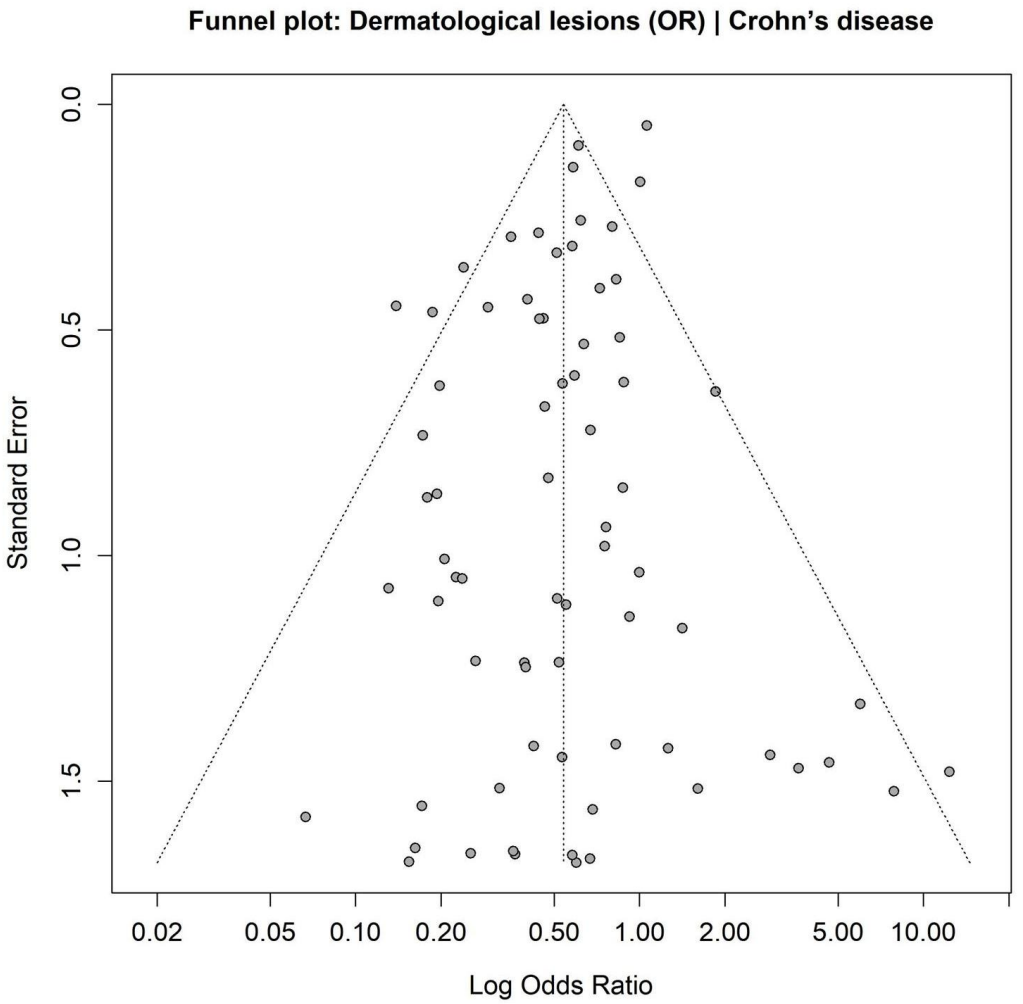
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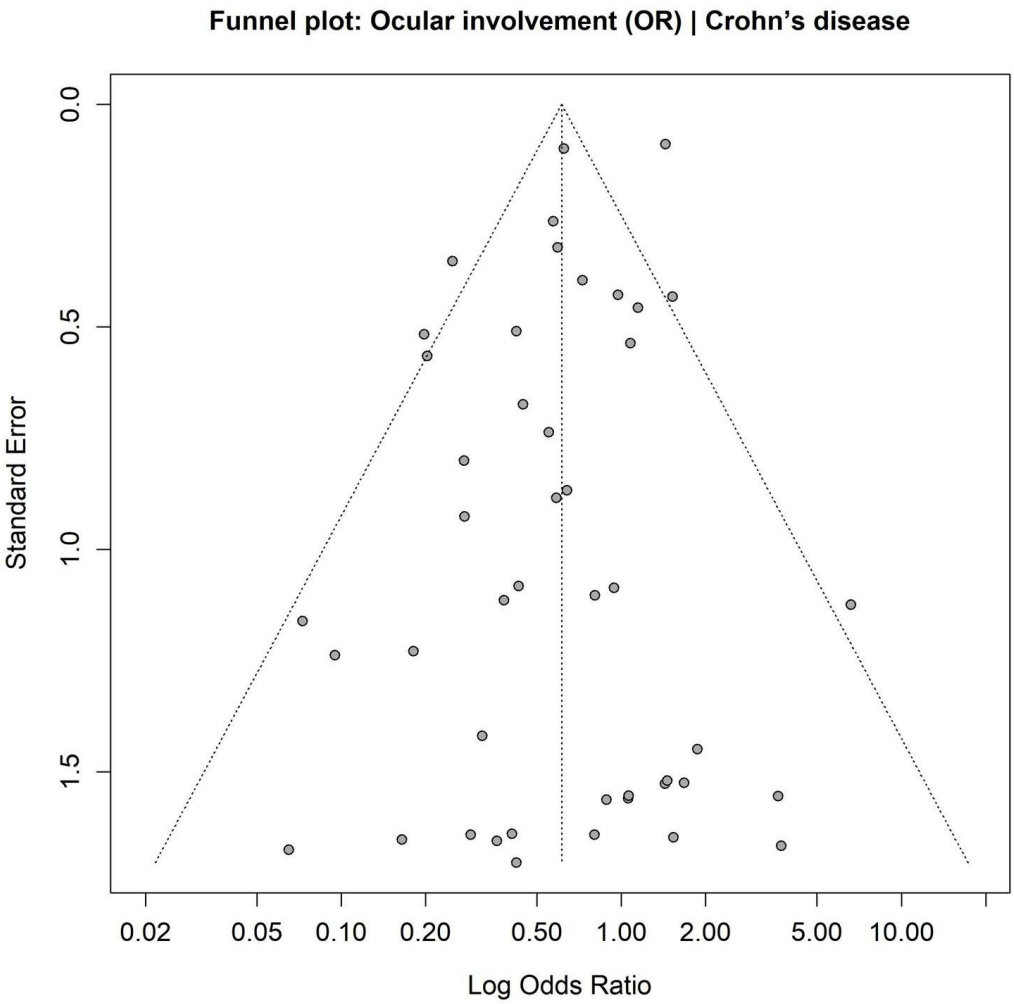
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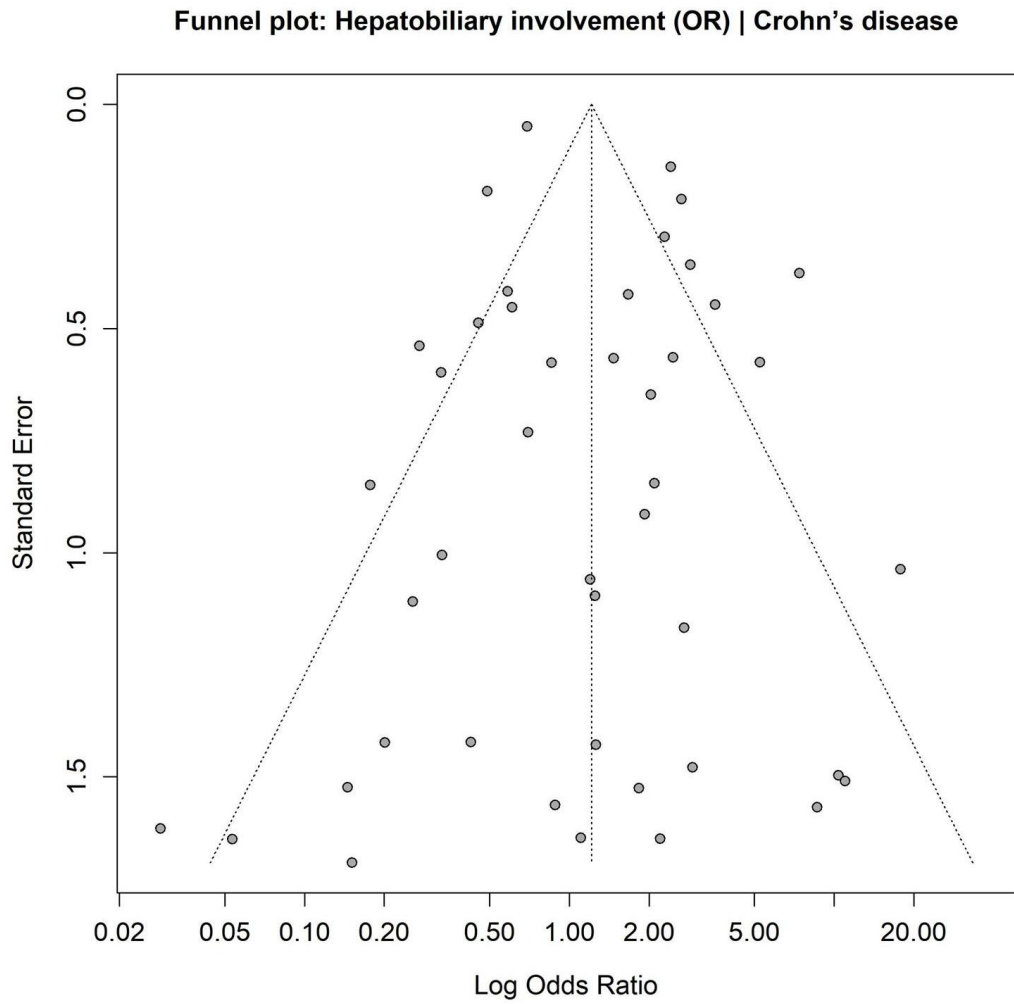
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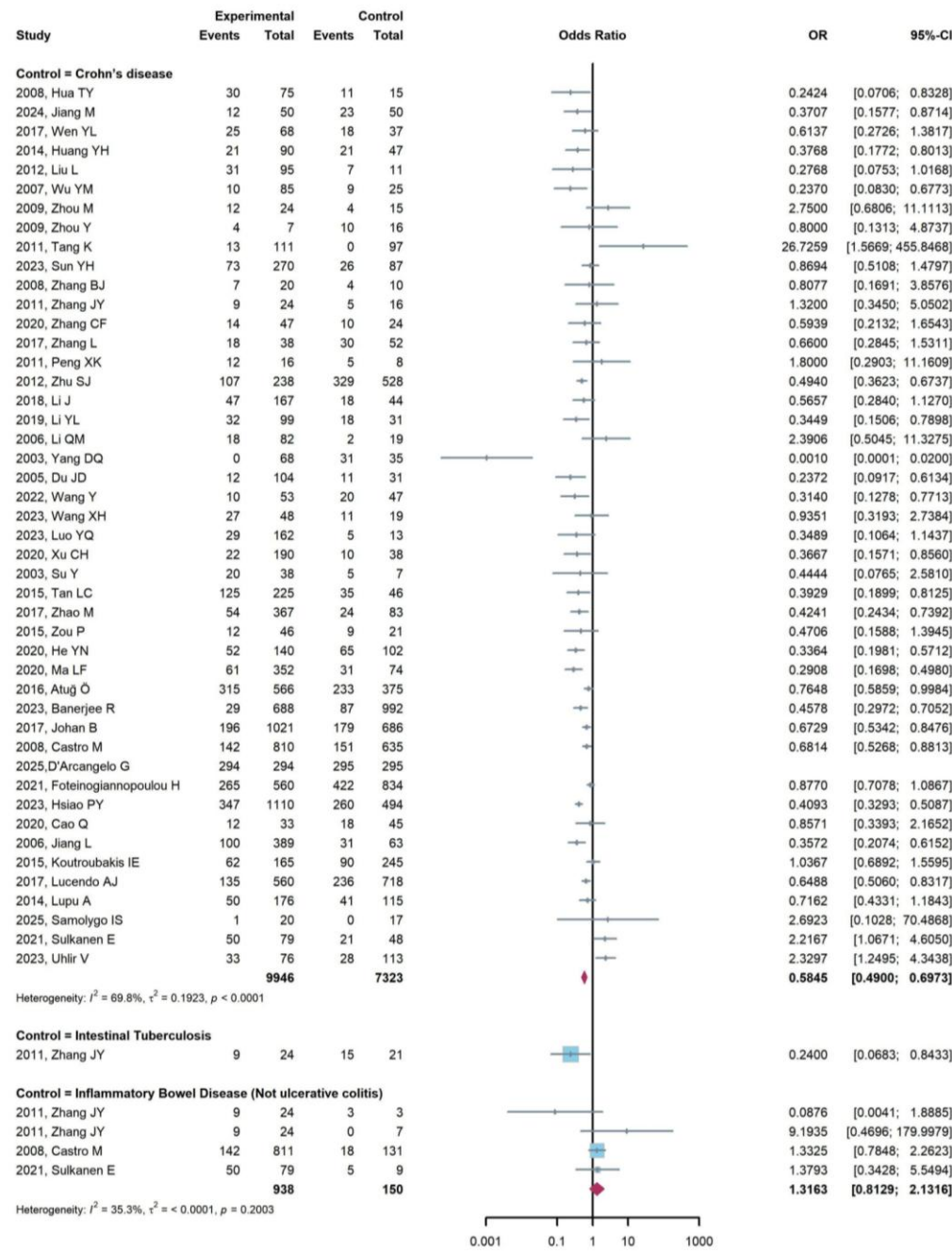


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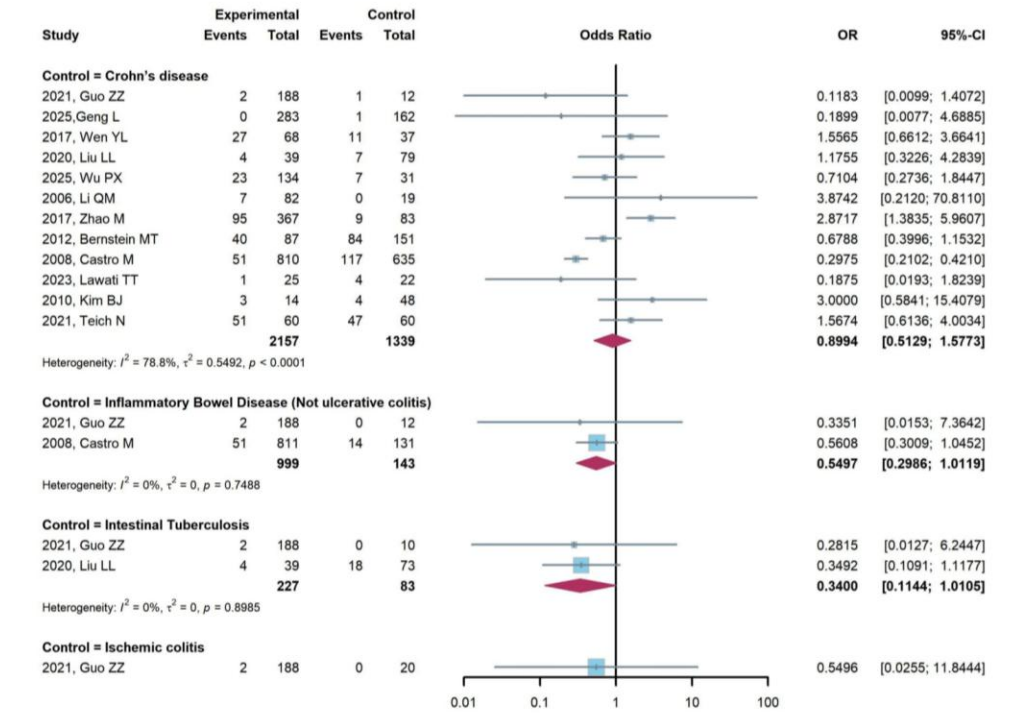


Supplementary Figure 4 Funnel plots. A: Funnel plot of overall extraintestinal manifestations for Ulcerative colitis VS. Crohn's disease; B: Funnel plot of arthritis for Ulcerative colitis VS. Crohn's disease; C: Funnel plot of oral lesions for Ulcerative colitis VS. Crohn's disease; D: Funnel plot of dermatological manifestations for Ulcerative colitis VS. Crohn's disease; E: Funnel plot of ocular involvement for Ulcerative colitis VS. Crohn's disease; F: Funnel plot of hepatobiliary involvement for Ulcerative colitis VS. Crohn's disease.

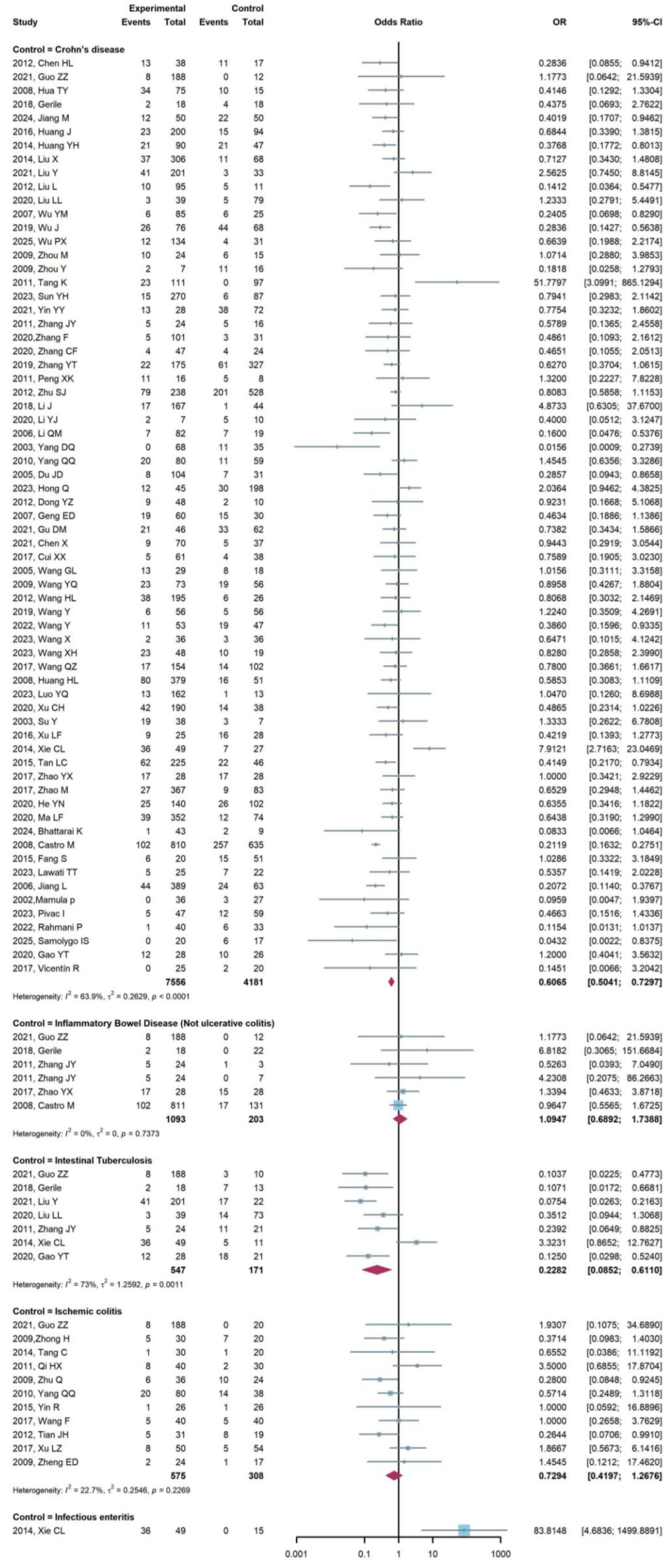
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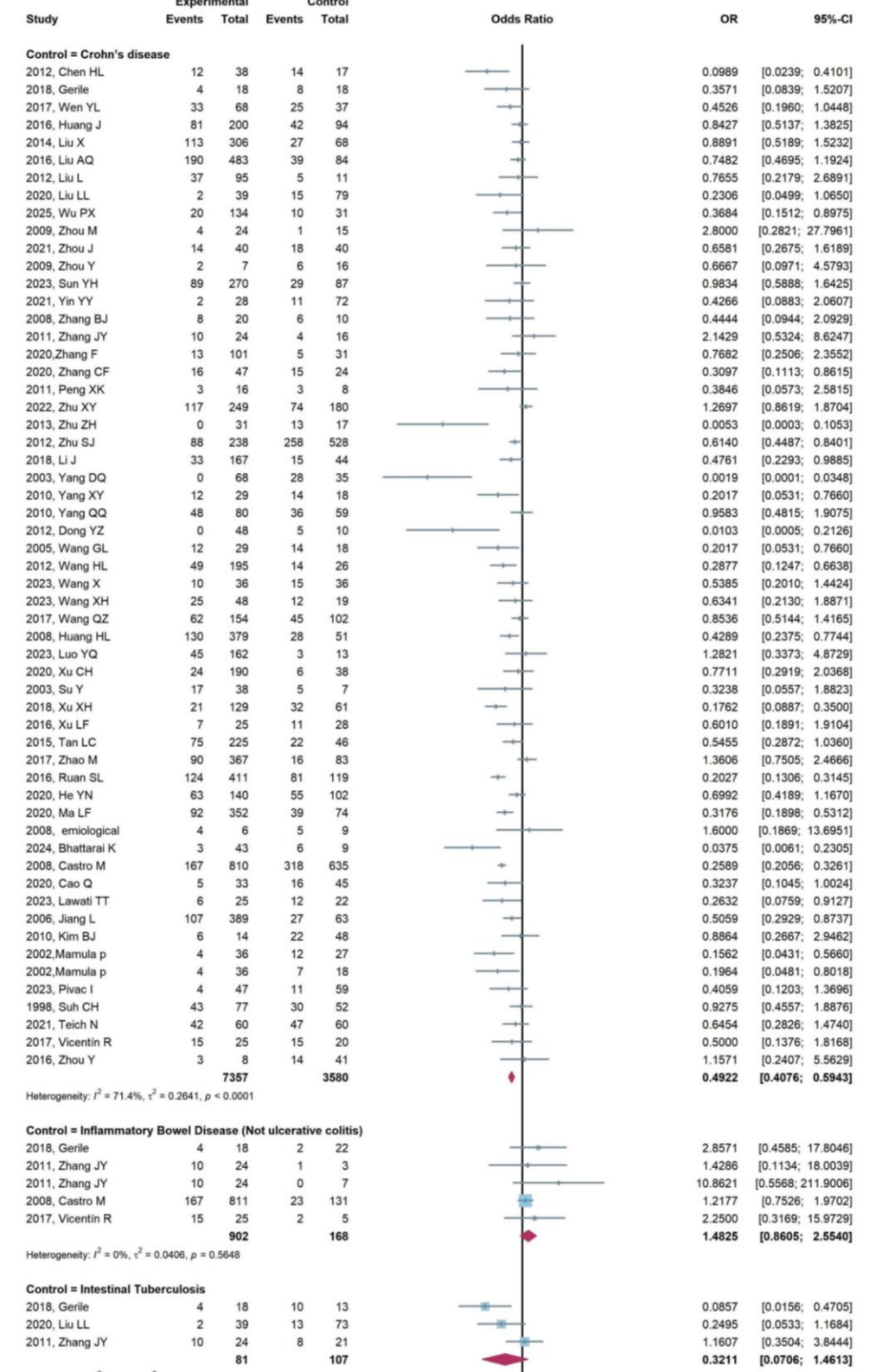
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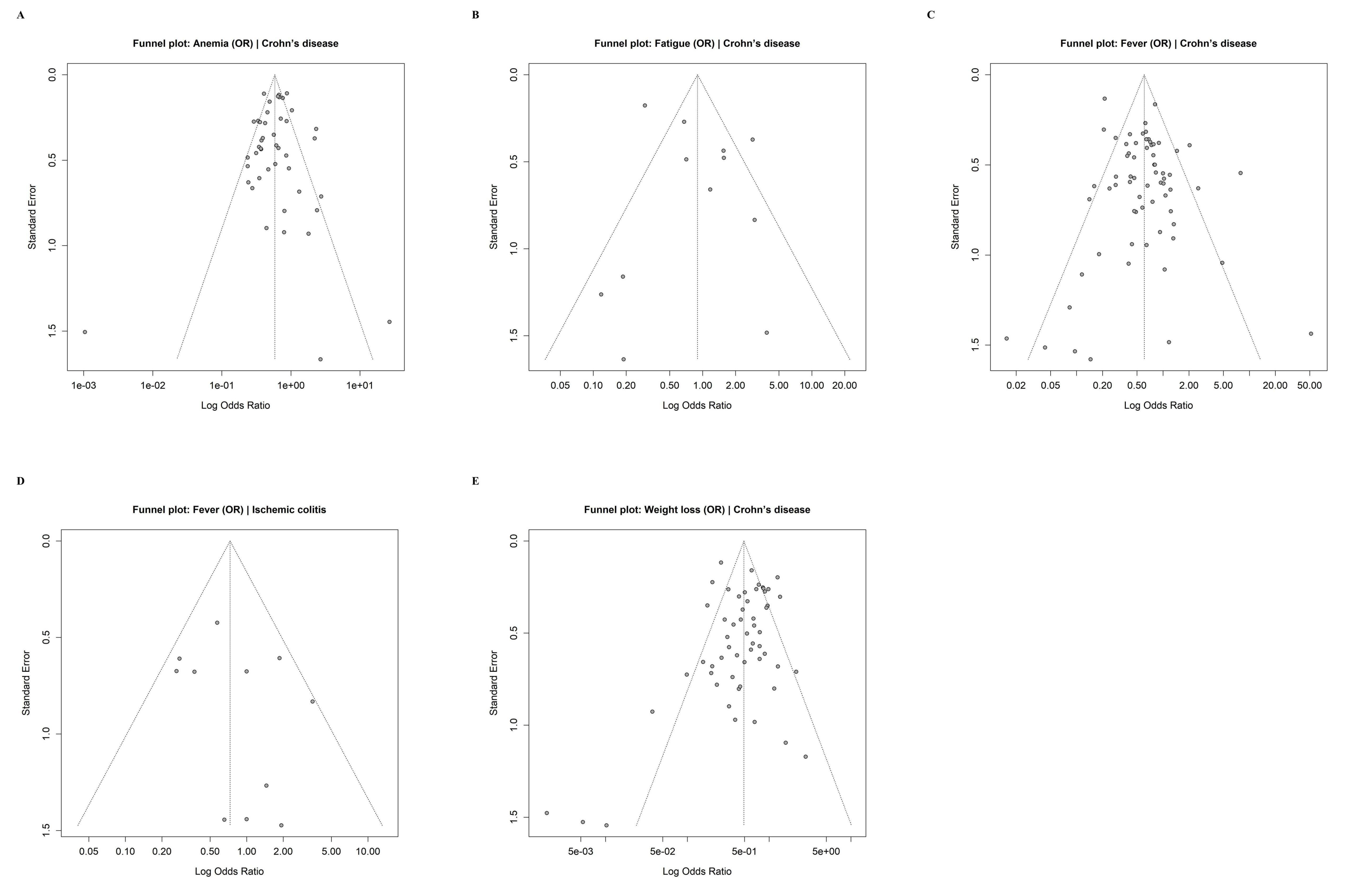
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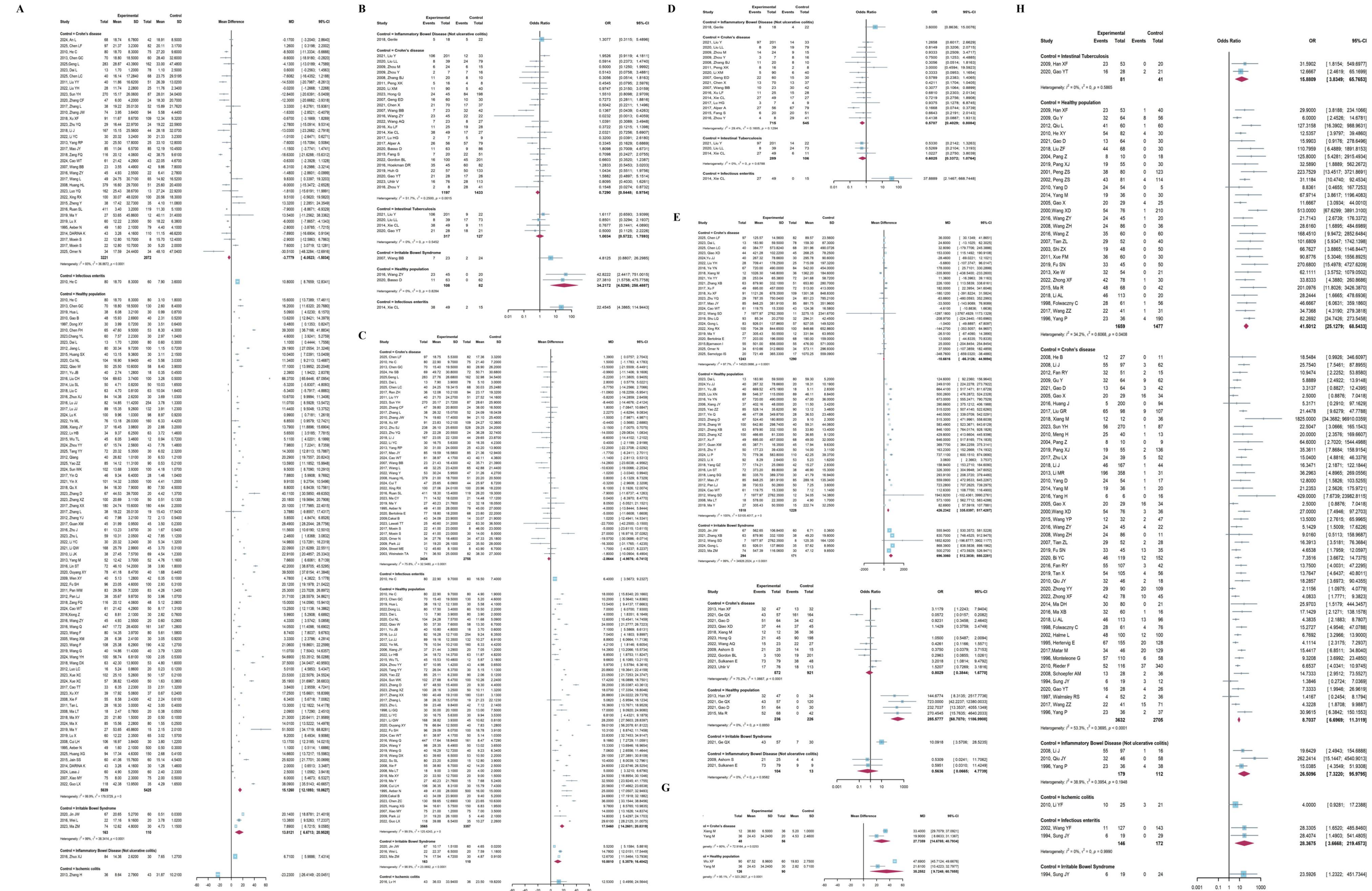
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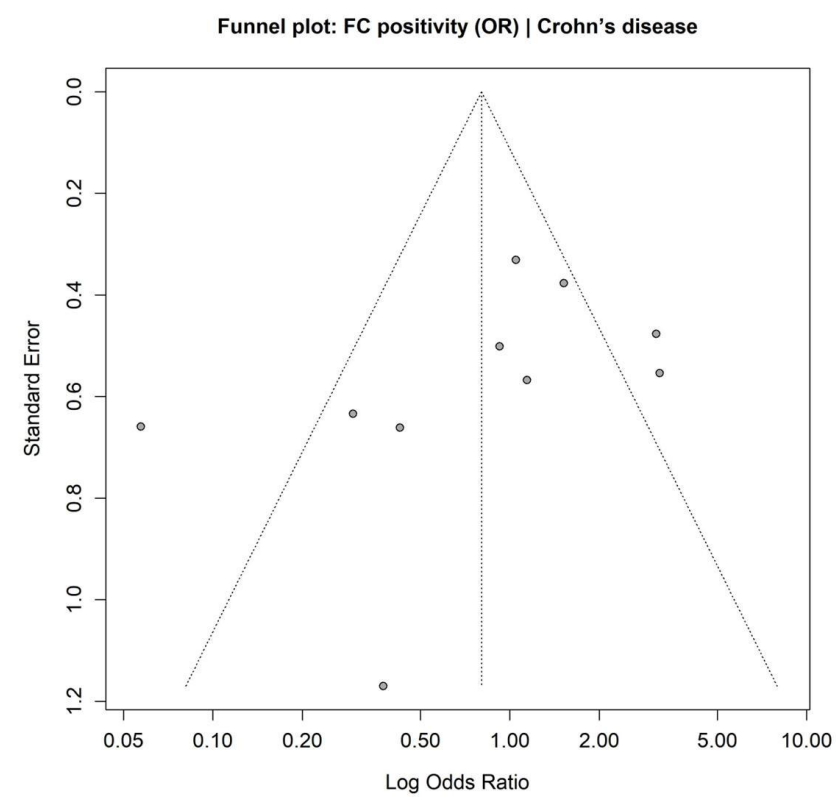
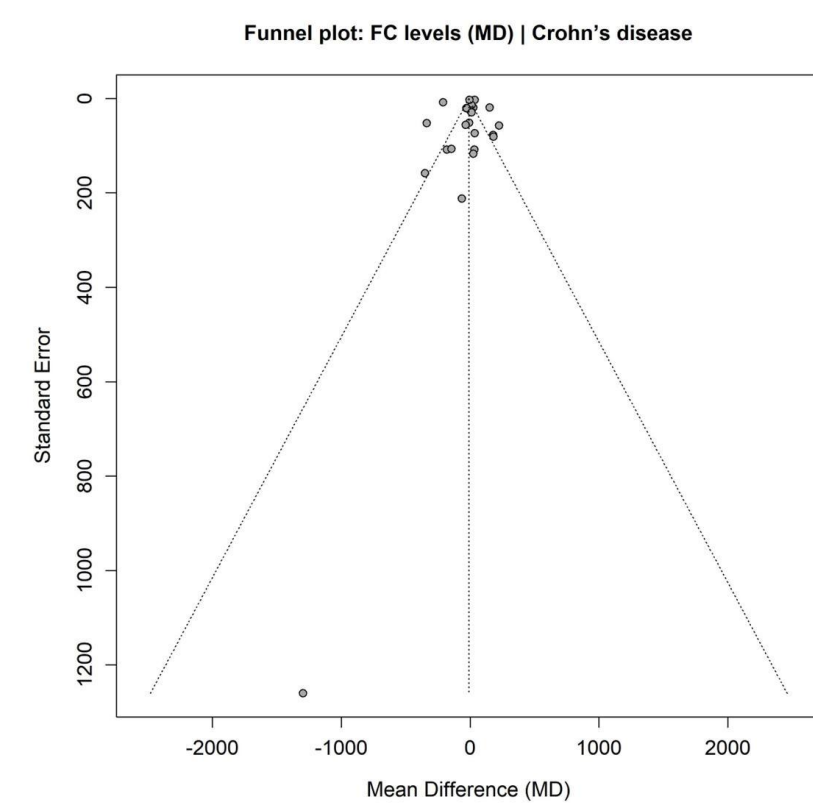
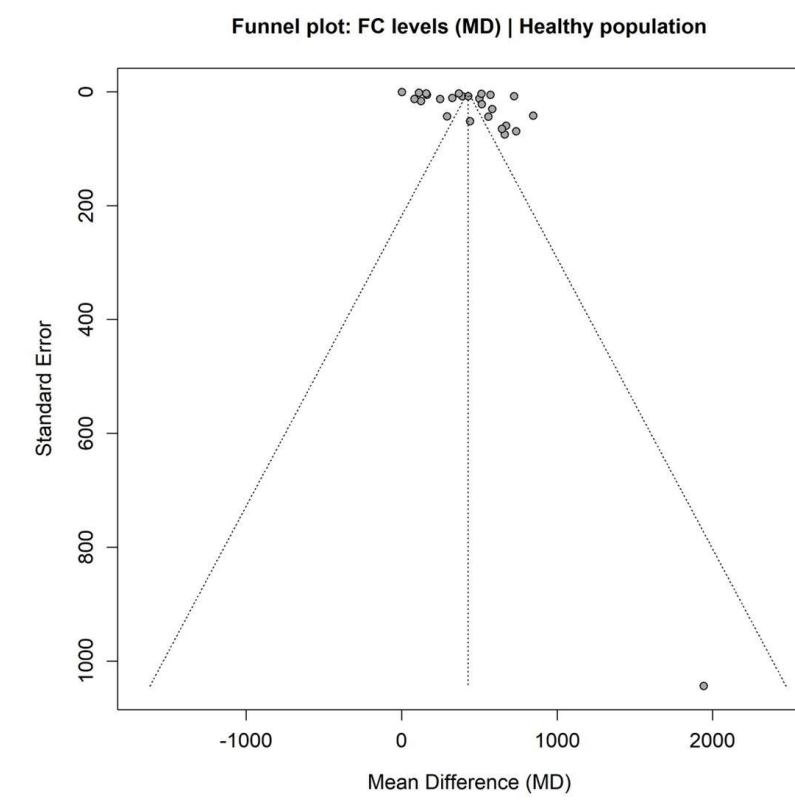
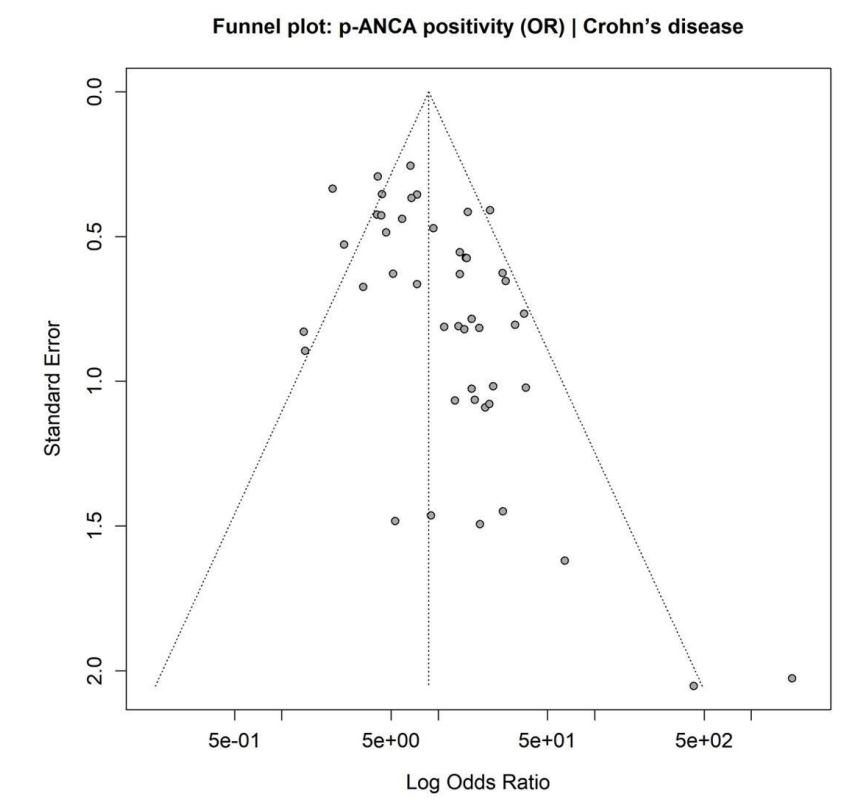
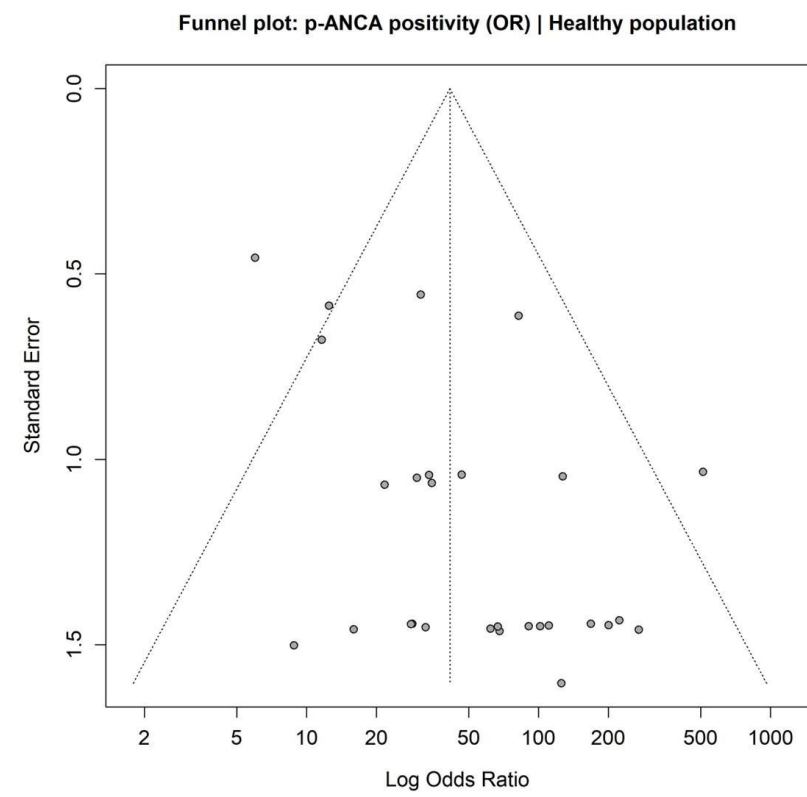
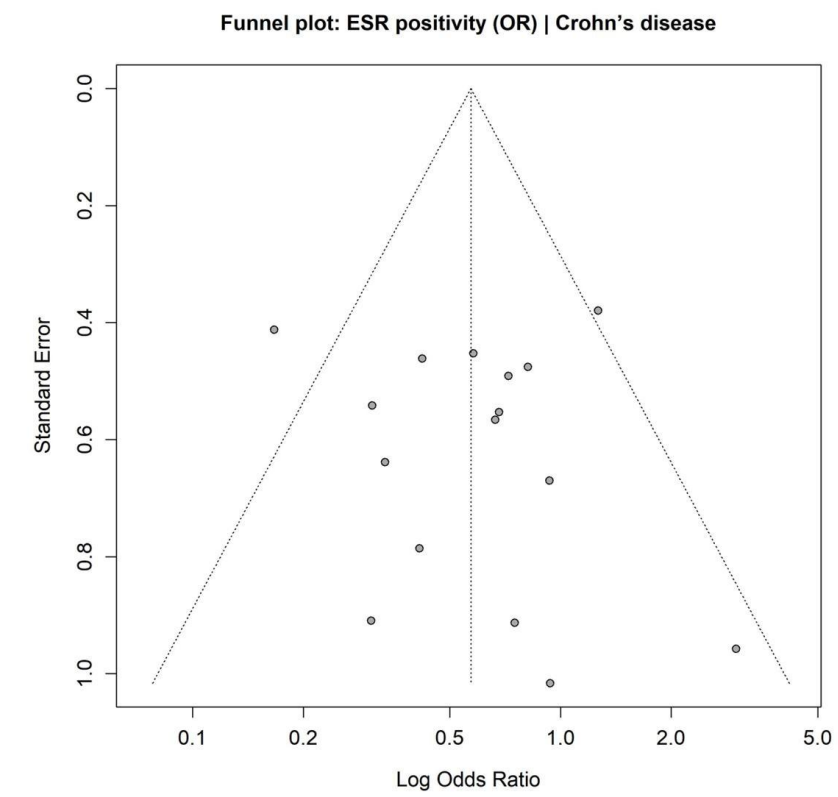
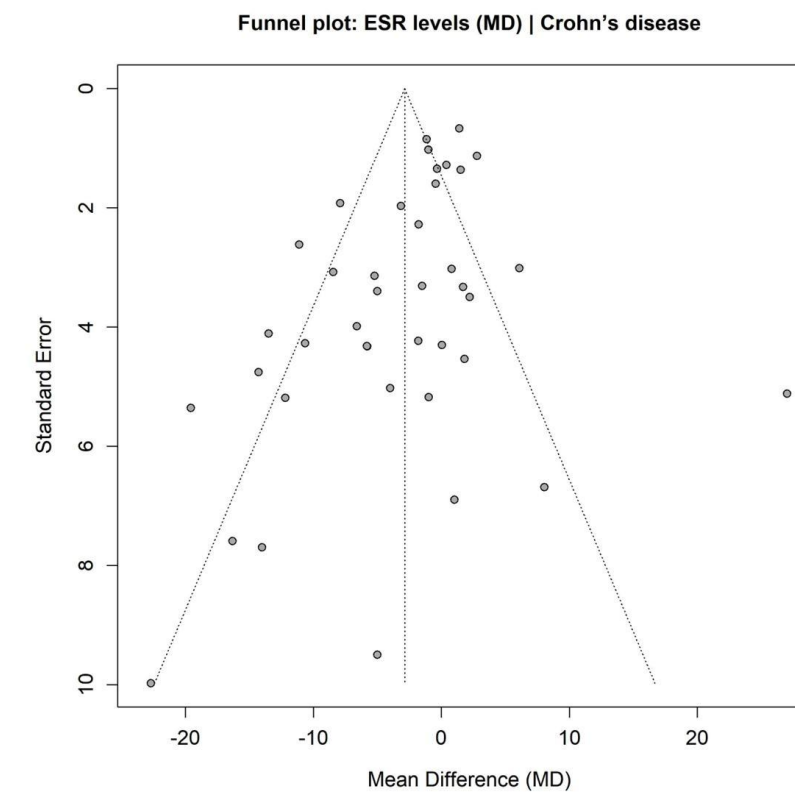
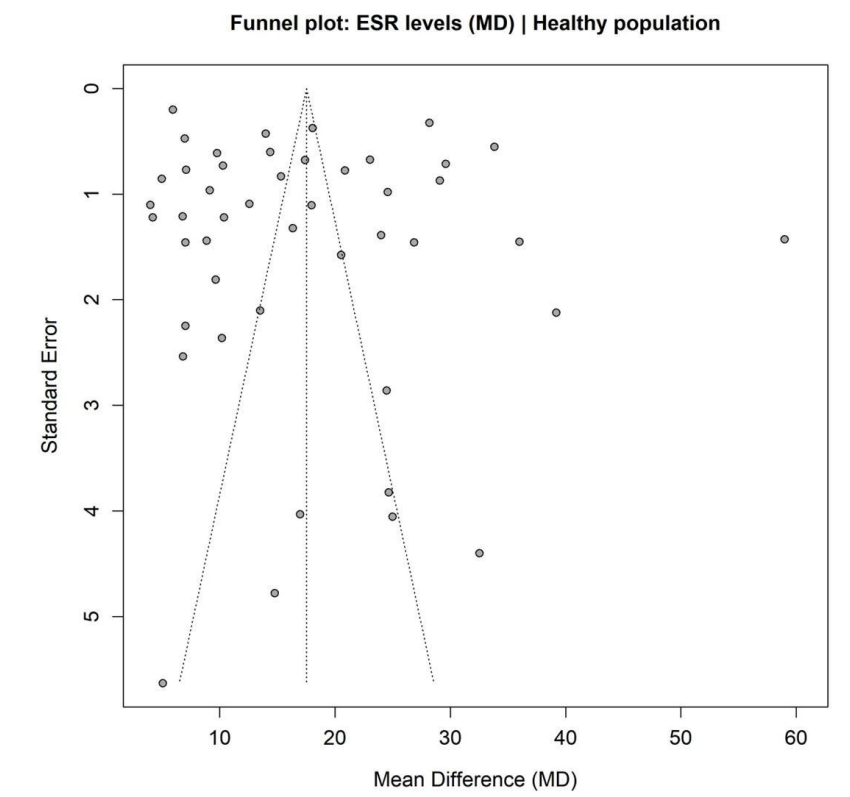
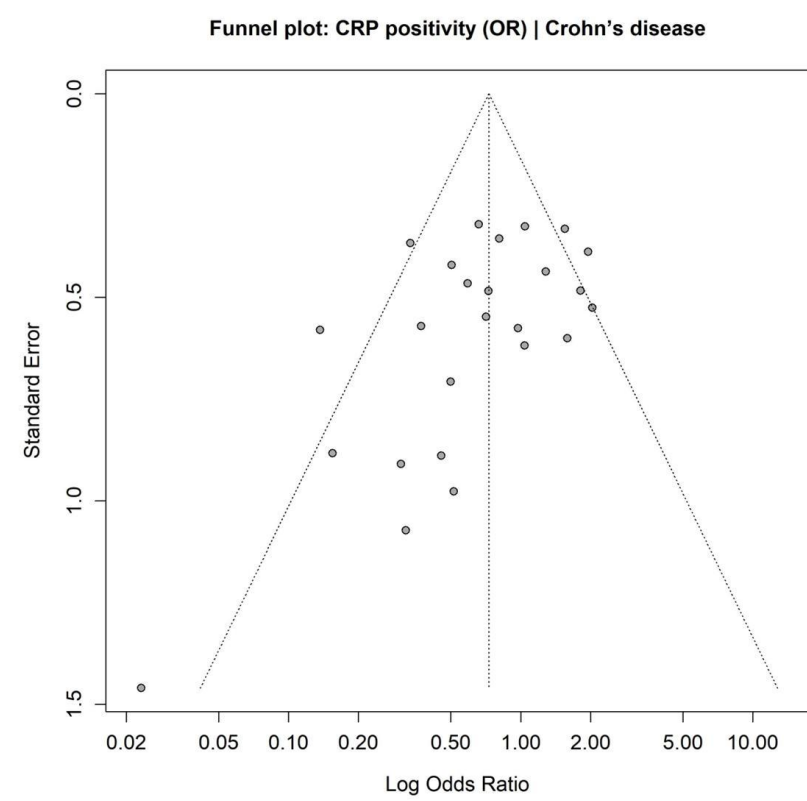
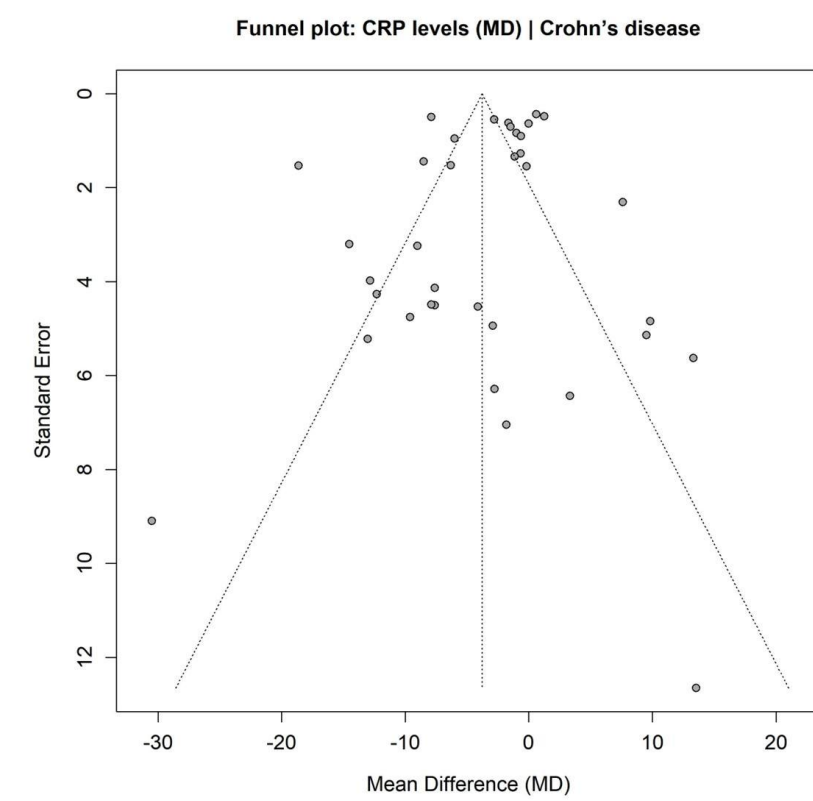
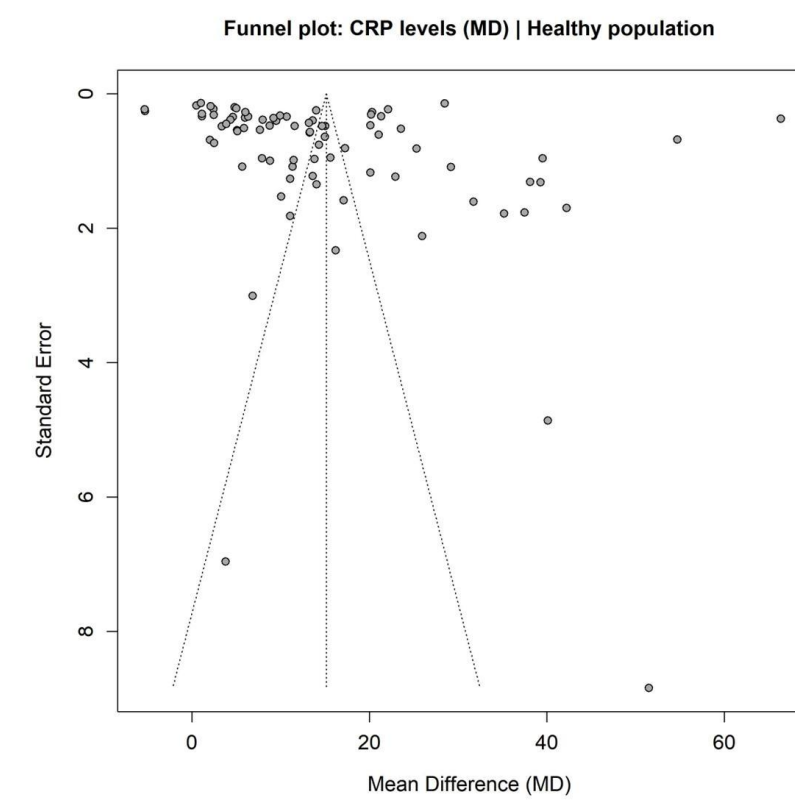
Supplementary Figure 5 Forest plots. A: Forest plot of anemia in ulcerative colitis compared to Crohn's disease, intestinal tuberculosis, inflammatory bowel disease unclassified, and unspecified diseases. B: Forest plot of fatigue in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, inflammatory bowel disease unclassified, and unspecified diseases. C: Forest plot of Fever in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, infectious enteritis, inflammatory bowel disease unclassified, and unspecified diseases. D: Forest plot of weight loss in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, inflammatory bowel disease unclassified, and unspecified diseases.



Supplementary Figure 6 Funnel plots. A: Funnel plot of anemia for Ulcerative colitis VS. Crohn's disease; B: Funnel plot of fatigue for Ulcerative colitis VS. Crohn's disease; C: Funnel plot of Fever for Ulcerative colitis VS. Crohn's disease; D: Funnel plot of Fever for Ulcerative colitis VS. Ischemic colitis; E: Funnel plot of weight loss for Ulcerative colitis VS. Crohn's disease.

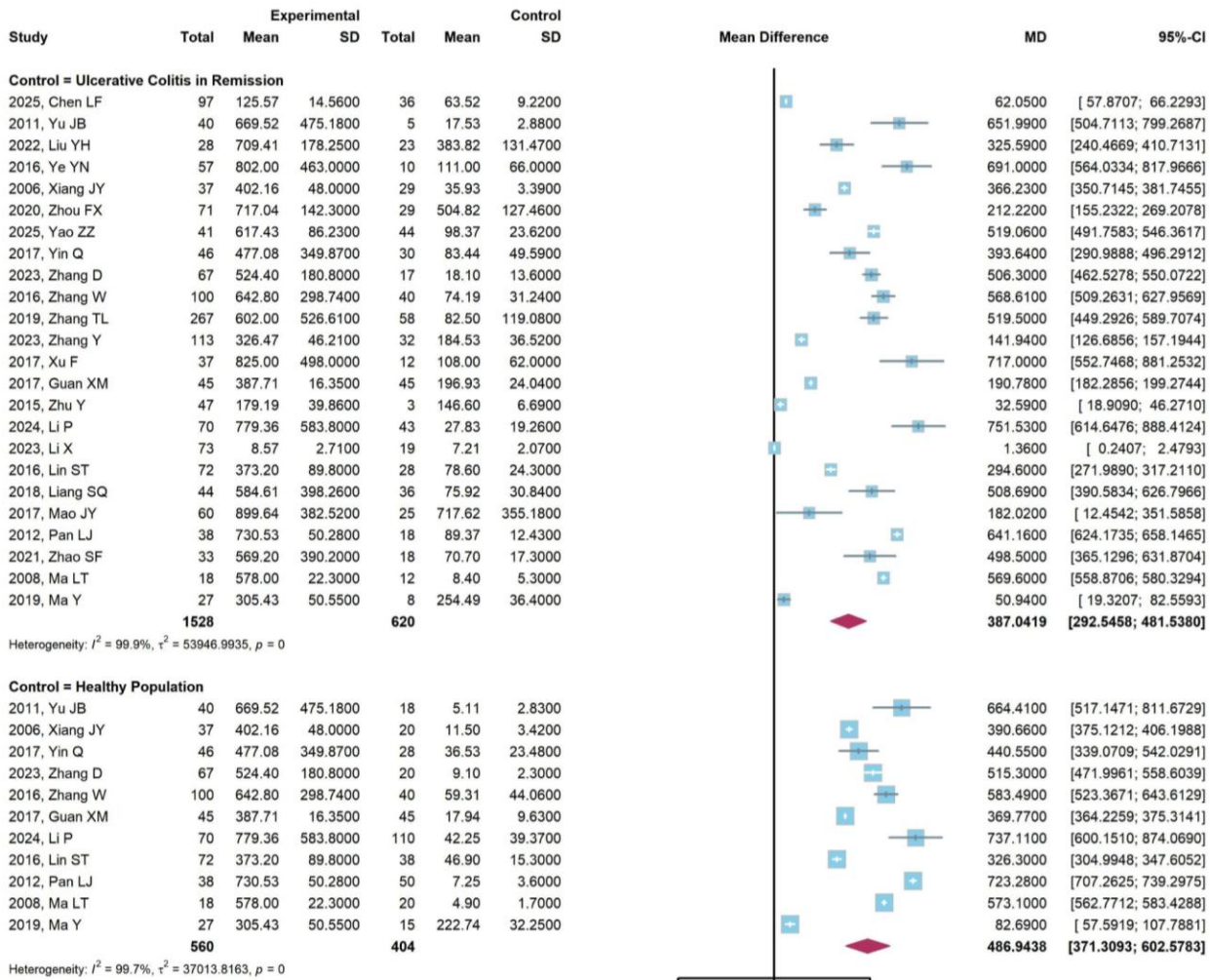


Supplementary Figure 7 Forest plots. A: Forest plot of C-reactive protein levels in ulcerative colitis compared to Crohn's disease, ischemic colitis, irritable bowel syndrome, infectious enteritis, inflammatory bowel disease unclassified, unspecified diseases, and healthy controls; B: Forest plot of C-reactive protein positivity in ulcerative colitis compared to Crohn's disease, intestinal tuberculosis, irritable bowel syndrome, infectious enteritis, inflammatory bowel disease unclassified, unspecified diseases, and healthy controls; C: Forest plot of erythrocyte sedimentation rate levels in ulcerative colitis compared to Crohn's disease, ischemic colitis, irritable bowel syndrome, infectious enteritis, unspecified diseases, and healthy controls; D: Forest plot of erythrocyte sedimentation rate positivity in ulcerative colitis compared to Crohn's disease, intestinal tuberculosis, infectious enteritis, inflammatory bowel disease unclassified, and healthy controls; E: Forest plot of fecal calprotectin levels in ulcerative colitis compared to Crohn's disease, irritable bowel syndrome, unspecified diseases, and healthy controls; F: Forest plot of fecal calprotectin positivity in ulcerative colitis compared to Crohn's disease, irritable bowel syndrome, inflammatory bowel disease unclassified, unspecified diseases, and healthy controls; G: Forest plot of perinuclear anti-neutrophil cytoplasmic antibodies levels in ulcerative colitis compared to Crohn's disease, unspecified diseases, and healthy controls; H: Forest plot of perinuclear anti-neutrophil cytoplasmic antibodies positivity in ulcerative colitis compared to Crohn's disease, ischemic colitis, intestinal tuberculosis, irritable bowel syndrome, infectious enteritis, inflammatory bowel disease unclassified, unspecified diseases, and healthy controls.

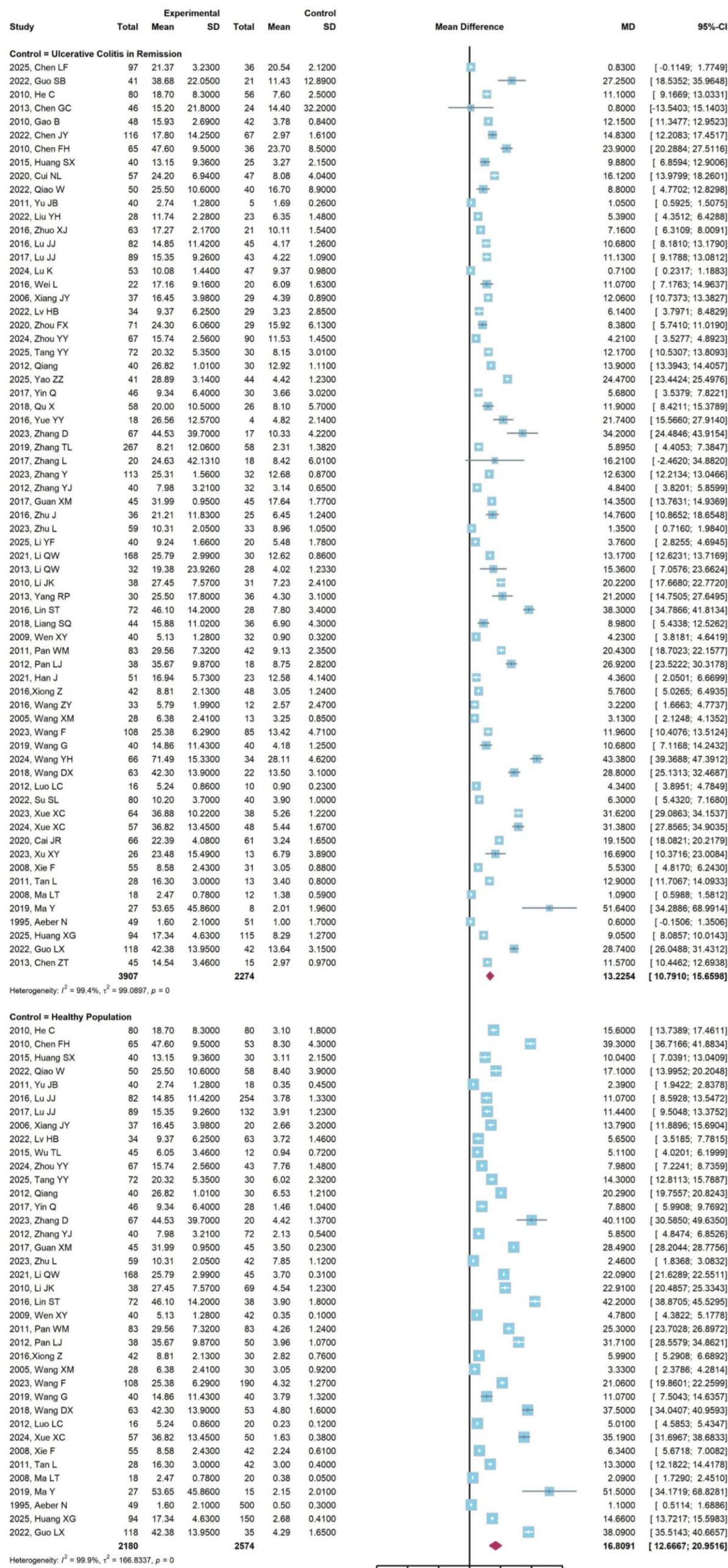
A**B****C****D****E****F****G****H****I****J****K**

Supplementary Figure 8 Funnel plots. A: Funnel plot of fecal calprotectin positivity for Ulcerative colitis VS. Crohn's disease; B: Funnel plot of fecal calprotectin levels for Ulcerative colitis VS. Crohn's disease; C: Funnel plot of fecal calprotectin levels for Ulcerative colitis VS. Healthy controls; D. Funnel plot of perinuclear anti-neutrophil cytoplasmic antibodies positivity for Ulcerative colitis VS. Crohn's disease, E: Funnel plot of perinuclear anti-neutrophil cytoplasmic antibodies positivity for Ulcerative colitis VS. Healthy controls, F: Funnel plot of erythrocyte sedimentation rate positivity for Ulcerative colitis VS. Crohn's disease; G: Funnel plot of erythrocyte sedimentation rate levels for Ulcerative colitis VS. Crohn's disease; H: Funnel plot of erythrocyte sedimentation rate levels for Ulcerative colitis VS. Healthy controls; I: Funnel plot of C-reactive protein positivity for Ulcerative colitis VS. Crohn's disease; J: Funnel plot of C-reactive protein levels for Ulcerative colitis VS. Crohn's disease; K: Funnel plot of C-reactive protein levels for Ulcerative colitis VS. Healthy controls.

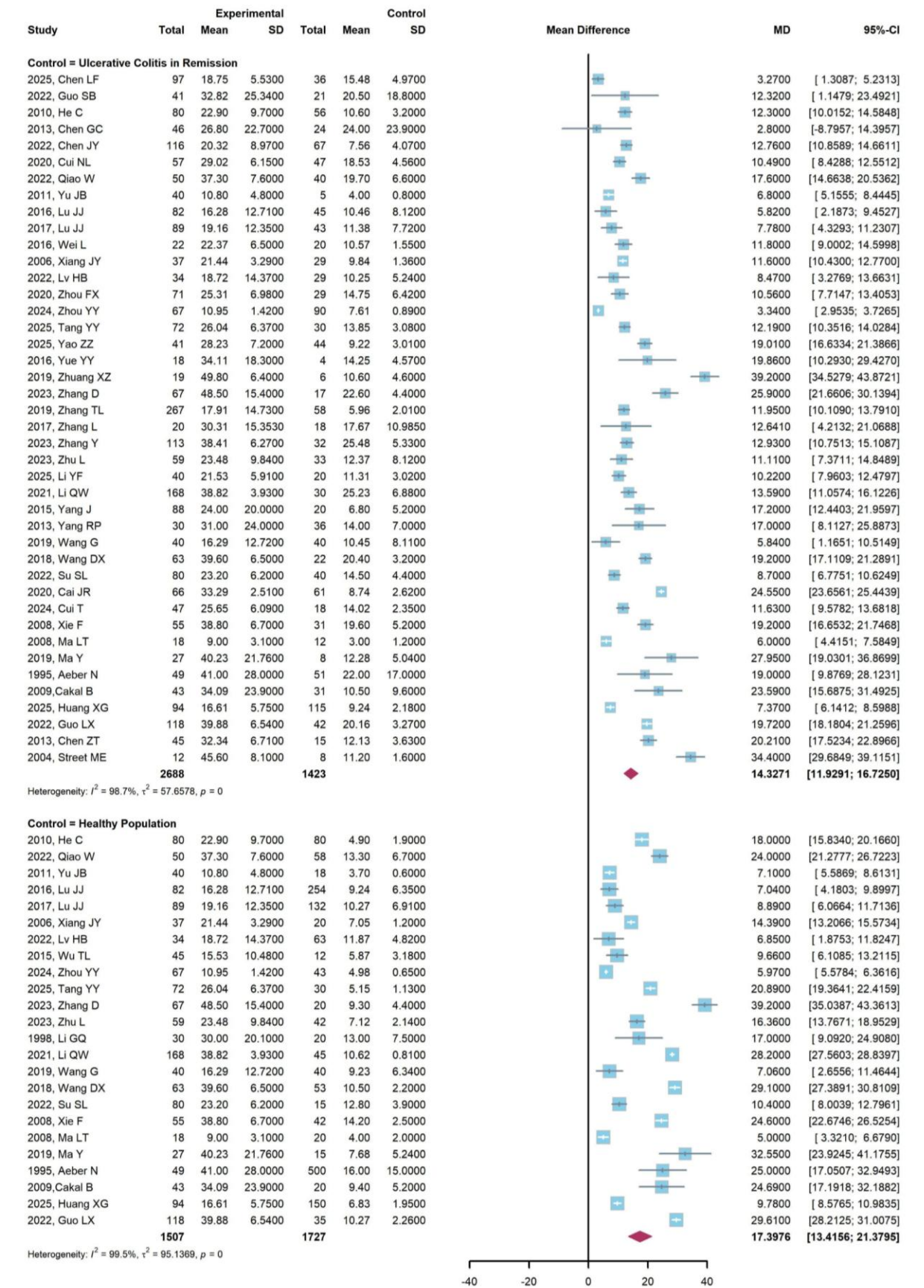
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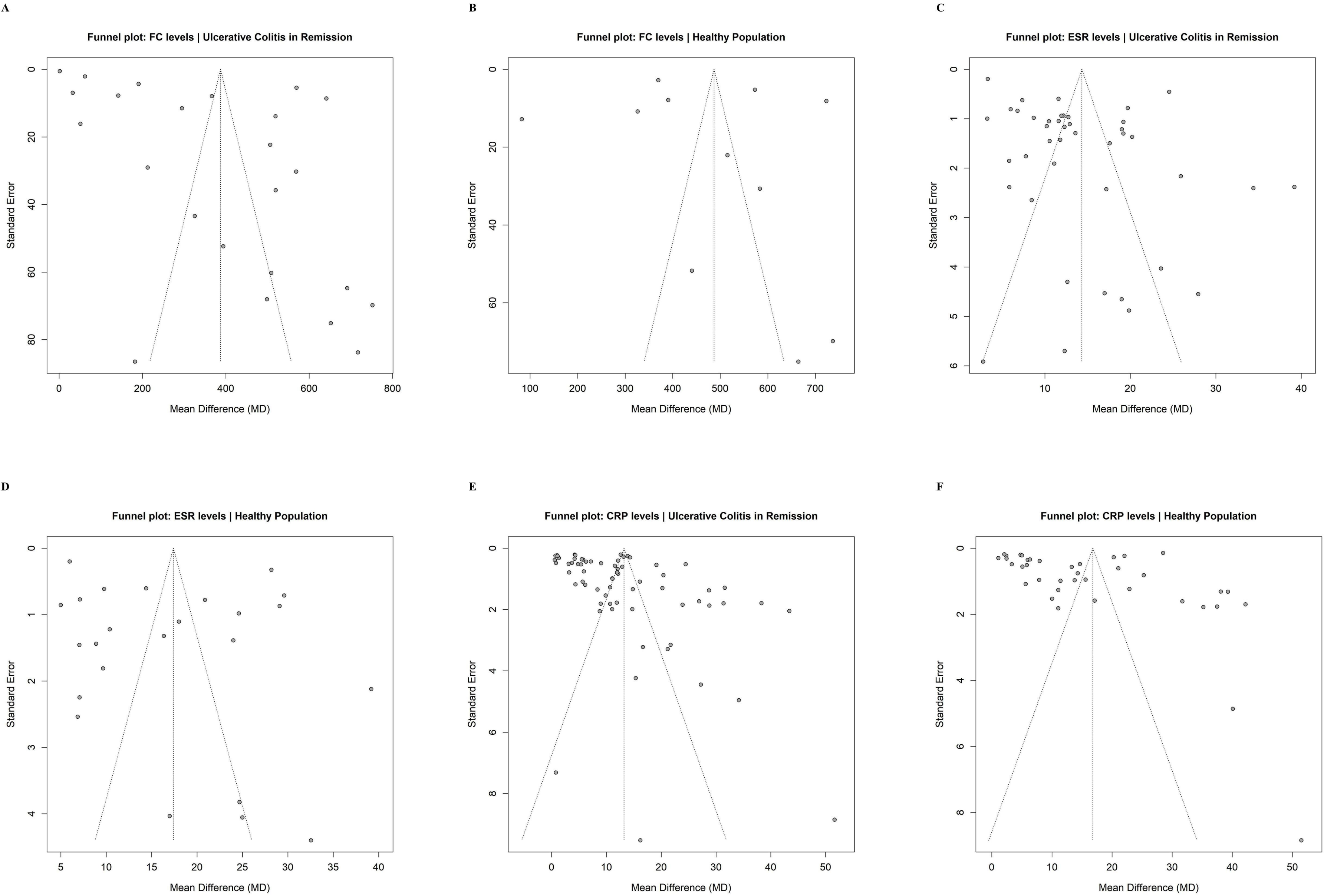
C



B



Supplementary Figure 9 Forest plots. A: Forest plot of fecal calprotectin levels in active ulcerative colitis compared to clinical remission, and healthy controls. B: Forest plot of erythrocyte sedimentation rate levels in active ulcerative colitis compared to clinical remission, and healthy controls; C: Forest plot of C-reactive protein levels in active ulcerative colitis compared to clinical remission, and healthy controls.



Supplementary Figure 10 Funnel plots. A: Funnel plot of fecal calprotectin positivity in active ulcerative colitis versus clinical remission; B: Funnel plot of fecal calprotectin positivity in active ulcerative colitis versus healthy controls; C: Funnel plot of erythrocyte sedimentation rate levels in active ulcerative colitis versus clinical remission; D: Funnel plot of erythrocyte sedimentation rate levels in active ulcerative colitis versus healthy controls; E: Funnel plot of C-reactive protein levels in active ulcerative colitis versus clinical remission; F: Funnel plot of C-reactive protein levels in active ulcerative colitis versus healthy controls.

Supplementary Table 1 The search strategy for the respective database.

Database name	Search strategies
CNKI	#1 (SU=('溃疡性结肠炎'+ '炎性肠病') OR TKA=('溃疡性结肠炎'+ '非特异性溃疡性结肠炎'+ '炎性肠病'))
	#2 TKA=('克罗恩病'+ '肠结核'+ '结肠癌'+ '结肠肿瘤'+ '结肠直肠癌'+ '结肠直肠肿瘤'+ '非溃疡新结肠炎'+ '直肠炎'+ '感染性'+ '细菌性'+ '阿米巴'+ '痢疾'+ '缺血性'+ '肠易激惹综合征'+ '健康对照'+ '健康人'+ '正常人'+ '活动期'+ '缓解期')
	#3 TKA=('临床表现'+ '临床特征'+ '临床症状'+ '肠外表现'+ '便血'+ '黏液脓血便'+ '腹泻'+ '腹痛'+ '里急后重'+ '关节炎'+ '关节病变'+ '结节性红斑'+ '脓皮病'+ '口腔溃疡'+ '阿弗他溃疡'+ '葡萄膜炎'+ '巩膜炎'+ '胆管炎'+ '贫血'+ '发热'+ '消瘦'+ '实验室检查'+ '粪钙卫蛋白'+ '粪便钙卫蛋白'+ 'C 反应蛋白'+ 'CRP'+ '血沉'+ 'ESR'+ 'p-ANCA'+ '核周型抗中性粒细胞胞浆抗体')
	#4 TKA=('发生率'+ '发病率'+ '患病率'+ '现患率'+ '构成比'+ '占比'+ '回顾'+ '横断面'+ '收集'+ '收治'+ '就诊'+ '灵敏'+ '特异'+ '诊断'+ 'AUC'+ '似然比'+ '预测值')
	#5 NOT (II=('治疗'+ '疗效'+ '有效'+ '效果'+ '干预'+ '机制'+ '鼠'+ '论治') OR TKA=('干预组'+ '试验组'+ '治疗组'))
Wanfang	#1 AND #2 AND #3 AND #4 NOT #5
	#1 主题:("溃疡性结肠炎" OR "炎性肠病" OR "非特异性溃疡性结肠炎")
	#2 主题:("克罗恩病" OR "肠结核" OR "结肠癌" OR "结肠肿瘤" OR "结肠直肠癌"OR "非溃疡新结肠炎" OR "直肠炎" OR "感染性" OR "细菌性" OR "阿米巴" OR "痢疾" OR "缺血性" OR "肠易激惹综合征" OR "健康对照" OR "健康人" OR "正常人" OR "活动期" OR "缓解期")
	#3 主题:("临床表现" OR "临床特征" OR "临床症状" OR "肠外表现" OR "便血" OR "黏液脓血便" OR "腹泻" OR "腹痛" OR "里急后重" OR "关节炎" OR "关节病变" OR "结节性红斑" OR "脓皮病" OR "口腔溃疡" OR "阿弗他溃疡" OR "葡萄膜炎" OR "巩膜炎" OR "胆管炎" OR "贫血" OR "发热" OR "消瘦" OR "实验室检查" OR "粪钙卫蛋白" OR "粪便钙卫蛋白" OR "C 反应蛋白" OR "CRP" OR "血沉" OR "ESR" OR "p-ANCA" OR "核周型抗中性粒细胞胞浆抗体")
VIP	#4 主题:("发生率" OR "发病率" OR "患病率" OR "现患率" OR "构成比" OR "占比" OR "回顾" OR "横断面" OR "收集" OR "收治" OR "就诊" OR "灵敏" OR "特异" OR "诊断" OR "AUC" OR "似然比" OR "预测值")
	#5 NOT (题名:("治疗" OR "疗效" OR "有效" OR "效果" OR "干预" OR "机制" OR "鼠" OR "论治") OR 摘要:("干预组" OR "试验组" OR "治疗组"))
	#1 AND #2 AND #3 AND #4 NOT #5
	#1 (M=(溃疡性结肠炎 or 非特异性溃疡性结肠炎 or 炎性肠病) or R=(溃疡性结肠炎 or 非特异性溃疡性结肠炎 or 炎性肠病))
SinoMed	#2 (R=(克罗恩病 or 肠结核 or 癌 or 肿瘤 or 非溃疡新结肠炎 or 直肠炎 or 感染性 or 细菌性 or 阿米巴 or 痢疾 or 缺血性 or 肠易激惹综合征 or 健康对照 or 健康对人 or 正常人))
	#3 (R=(临床表现 or 临床特征 or 临床症状 or 肠外表现 or 便血 or 黏液脓血便 or 腹泻 or 腹痛 or 里急后重 or 关节炎 or 关节病变 or 结节性红斑 or 脓皮病 or 口腔溃疡 or 阿弗他溃疡 or 葡萄膜炎 or 巩膜炎 or 胆管炎 or 贫血 or 发热 or 消瘦 or 实验室检查 or 粪钙卫蛋白 or 粪便钙卫蛋白 or C 反应蛋白 or CRP or 血沉 or ESR or p-ANCA or 核周型抗中性粒细胞胞浆抗体))
	#4 (R=(发生率 or 发病率 or 患病率 or 现患率 or 构成比 or 占比 or 回顾 or 横断面 or 收集 or 收治 or 就诊 or 灵敏 or 特异 or 诊断 or AUC or 似然比 or 预测值))
	#5 NOT (T=(治疗 or 疗效 or 有效 or 效果 or 干预 or 机制 or 鼠 or 论治) or R=(干预组 or 试验组 or 治疗组))
	#1 AND #2 AND #3 AND #4 NOT #5
Pubmed	
	#1 ("Ulcerative Colitis" OR "inflammatory bowel disease)
	#2 ("Crohn's disease"[tiab] OR "Crohn disease"[tiab] OR "intestinal tuberculosis"[tiab] OR "colon cancer"[tiab] OR "colon tumor"[tiab] OR "non-ulcerative colitis"[tiab] OR "proctitis"[tiab] OR "infectious"[tiab] OR "bacterial"[tiab] OR "amoeba"[tiab] OR "amoebiasis"[tiab] OR "dysentery"[tiab] OR "ischemic"[tiab] OR "irritable bowel syndrome"[tiab] OR "healthy control"[tiab] OR "healthy subject"[tiab] OR "normal subject"[tiab] OR "active phase"[tiab] OR "active stage"[tiab] OR

	"remission"[tiab] OR "remission phase"[tiab]) #3 ("clinical presentation"[tiab] OR "clinical features"[tiab] OR "clinical symptoms"[tiab] OR "extraintestinal manifestations"[tiab] OR "hematochezia"[tiab] OR "bloody stool"[tiab] OR "rectal bleeding"[tiab] OR "mucopurulent stool"[tiab] OR "mucous stool"[tiab] OR "diarrhea"[tiab] OR "diarrhoea"[tiab] OR "abdominal pain"[tiab] OR "tenesmus"[tiab] OR "arthritis"[tiab] OR "joint disease"[tiab] OR "erythema nodosum"[tiab] OR "pyoderma"[tiab] OR "oral ulcer"[tiab] OR "aphthous ulcer"[tiab] OR "uveitis"[tiab] OR "scleritis"[tiab] OR "cholangitis"[tiab] OR "anemia"[tiab] OR "fever"[tiab] OR "pyrexia"[tiab] OR "weight loss"[tiab] OR "emaciation"[tiab] OR "fecal calprotectin"[tiab] OR "faecal calprotectin"[tiab] OR "C-reactive protein"[tiab] OR "CRP"[tiab] OR "erythrocyte sedimentation rate"[tiab] OR "ESR"[tiab] OR "p-ANCA"[tiab] OR "perinuclear antineutrophil cytoplasmic antibody"[tiab]) #4 ("prevalence"[tiab] OR "incidence"[tiab] OR "frequency"[tiab] OR "occurrence"[tiab] OR "rate"[tiab] OR "proportion"[tiab] OR "percentage"[tiab] OR "composition ratio"[tiab] OR "retrospective"[tiab] OR "cross-sectional"[tiab] OR "admitted"[tiab] OR "sensitiv"[tiab] OR "specificit"[tiab] OR "diagnostic accuracy"[tiab] OR "ROC curve"[tiab] OR "AUC"[tiab] OR "likelihood ratio"[tiab] OR "diagnostic odds ratio"[tiab] OR "positive predictive value"[tiab] OR "negative predictive value"[tiab]) #5 NOT ("therapy"[tiab] OR "therapeutic"[tiab] OR "treatment"[tiab] OR "efficacy"[tiab] OR "effect"[tiab] OR "intervention"[tiab] OR "mechanism"[tiab] OR "intervention group"[tiab] OR "trial group"[tiab] OR "rat"[tiab] OR "mouse"[tiab]) #1 AND #2 AND #3 AND #4 NOT #5
Cochrane Library	#1 [mh "Ulcerative Colitis"] OR (ulcerative NEXT colitis):ti,ab,kw OR [mh "inflammatory bowel disease"] OR (inflammatory NEXT bowel NEXT disease):ti,ab,kw #2 'crohn disease':ti,ab OR 'intestinal tuberculosis':ti,ab OR ' colon cancer':ti,ab OR ' colon tumor':ti,ab OR 'non ulcerative colitis':ti,ab OR 'proctitis':ti,ab OR 'infectious':ti,ab OR 'bacterial':ti,ab OR 'amoeba':ti,ab OR 'amoebiasis':ti,ab OR 'dysentery':ti,ab OR 'ischemic':ti,ab OR 'irritable bowel syndrome':ti,ab OR 'ibs':ti,ab OR 'healthy control':ti,ab OR 'healthy subject':ti,ab OR 'normal subject':ti,ab OR 'active phase':ti,ab OR 'active stage':ti,ab OR 'remission':ti,ab OR 'remission phase':ti,ab #3 'clinical presentation':ti,ab OR 'clinical features':ti,ab OR 'clinical symptoms':ti,ab OR 'extraintestinal manifestations':ti,ab OR 'hematochezia':ti,ab OR 'bloody stool':ti,ab OR 'rectal bleeding':ti,ab OR 'mucopurulent stool':ti,ab OR 'mucous stool':ti,ab OR 'diarrhea':ti,ab OR 'diarrhoea':ti,ab OR 'abdominal pain':ti,ab OR 'tenesmus':ti,ab OR 'arthritis':ti,ab OR 'joint disease':ti,ab OR 'erythema nodosum':ti,ab OR 'pyoderma':ti,ab OR 'oral ulcer':ti,ab OR 'aphthous ulcer':ti,ab OR 'uveitis':ti,ab OR 'scleritis':ti,ab OR 'cholangitis':ti,ab OR 'anemia':ti,ab OR 'fever':ti,ab OR 'pyrexia':ti,ab OR 'weight loss':ti,ab OR 'emaciation':ti,ab OR 'fecal calprotectin':ti,ab OR 'faecal calprotectin':ti,ab OR 'c-reactive protein':ti,ab OR 'crp':ti,ab OR 'erythrocyte sedimentation rate':ti,ab OR 'esr':ti,ab OR 'p-anca':ti,ab OR 'perinuclear antineutrophil cytoplasmic antibody':ti,ab #4 'prevalence':ti,ab,kw OR 'incidence':ti,kw OR 'frequency':ti,ab,kw OR 'occurrence':ti,ab,kw OR 'rate':ti,ab,kw OR 'proportion':ti,ab,kw OR 'percentage':ti,ab,kw OR 'composition ratio':ti,ab,kw OR 'retrospective':ti,ab,kw OR 'cross-sectional':ti,ab,kw OR 'admitted':ti,ab,kw OR 'sensitiv':ti,ab,kw OR 'specificit':ti,ab,kw OR 'diagnostic accuracy':ti,ab,kw OR 'ROC curve':ti,ab,kw OR 'AUC':ti,ab,kw OR 'likelihood ratio':ti,ab,kw OR 'diagnostic odds ratio':ti,ab,kw OR 'positive predictive value':ti,ab,kw OR 'negative predictive value':ti,ab,kw #5 NOT ('therapy':ti,ab OR 'therapeutic':ti,ab OR 'treatment':ti,ab OR 'efficacy':ti,ab OR 'effect':ti,ab OR 'intervention':ti,ab OR 'mechanism':ti,ab OR 'intervention group':ti,ab OR 'trial group':ti,ab OR 'rat':ti,ab OR 'mouse':ti,ab) #1 AND #2 AND #3 AND #4 NOT #5
Embase	#1 ('ulcerative colitis':ti,ab OR 'inflammatory bowel disease':ti,ab) #2 ('crohn disease':ti,ab OR 'intestinal tuberculosis':ti,ab OR ' colon cancer':ti,ab OR ' colon tumor':ti,ab OR 'non ulcerative colitis':ti,ab OR 'proctitis':ti,ab OR 'infectious':ti,ab OR 'bacterial':ti,ab OR 'amoeba':ti,ab OR 'amoebiasis':ti,ab OR 'dysentery':ti,ab OR 'ischemic':ti,ab OR 'irritable bowel syndrome':ti,ab OR 'ibs':ti,ab OR 'healthy control':ti,ab OR 'healthy subject':ti,ab OR 'normal subject':ti,ab OR 'active phase':ti,ab OR 'active stage':ti,ab OR 'remission':ti,ab OR 'remission phase':ti,ab) #3 ('clinical presentation':ti,ab OR 'clinical features':ti,ab OR 'clinical symptoms':ti,ab OR 'extraintestinal manifestations':ti,ab OR 'hematochezia':ti,ab OR 'bloody stool':ti,ab OR 'rectal bleeding':ti,ab OR 'mucopurulent stool':ti,ab OR 'mucous stool':ti,ab OR 'diarrhea':ti,ab OR 'diarrhoea':ti,ab OR 'abdominal pain':ti,ab OR 'tenesmus':ti,ab OR 'arthritis':ti,ab OR 'joint disease':ti,ab OR 'erythema nodosum':ti,ab OR 'pyoderma':ti,ab OR 'oral ulcer':ti,ab OR 'aphthous ulcer':ti,ab OR 'uveitis':ti,ab OR 'scleritis':ti,ab OR 'cholangitis':ti,ab OR 'anemia':ti,ab OR 'fever':ti,ab OR 'pyrexia':ti,ab OR 'weight loss':ti,ab OR 'emaciation':ti,ab OR 'fecal calprotectin':ti,ab OR 'faecal calprotectin':ti,ab OR 'c-reactive protein':ti,ab OR 'crp':ti,ab OR 'erythrocyte sedimentation rate':ti,ab OR 'esr':ti,ab OR 'p-anca':ti,ab OR 'perinuclear antineutrophil cytoplasmic antibody':ti,ab) #4 ('prevalence':ti,kw OR 'incidence':ti,kw OR 'frequency':ti,kw OR 'occurrence':ti,kw OR 'rate':ti,kw OR 'proportion':ti,kw OR 'percentage':ti,kw OR 'composition ratio':ti,kw OR 'retrospective':ti,kw OR 'cross-sectional':ti,kw OR 'admitted':ti,kw OR 'sensitiv':ti,kw OR 'specificit':ti,kw OR 'diagnostic accuracy':ti,kw OR 'ROC curve':ti,kw OR 'AUC':ti,kw OR 'likelihood ratio':ti,kw OR 'diagnostic odds ratio':ti,kw OR 'positive predictive value':ti,kw OR 'negative predictive value':ti,kw) #5 NOT ('therapy':ti,ab OR 'therapeutic':ti,ab OR 'treatment':ti,ab OR 'efficacy':ti,ab OR 'effect':ti,ab OR 'intervention':ti,ab OR 'mechanism':ti,ab OR 'intervention group':ti,ab OR 'trial group':ti,ab OR 'rat':ti,ab OR 'mouse':ti,ab) #1 AND #2 AND #3 AND #4 NOT #5
Web of Science	#1 TS=("ulcerative colitis" OR "inflammatory bowel disease") #2 TS=("Crohn's disease" OR "Crohn disease" OR "intestinal tuberculosis" OR "cancer" OR "tumor" OR "neoplasm" OR "non-ulcerative colitis" OR "proctitis" OR "infectious" OR "bacterial" OR "amoeba" OR "amoebiasis" OR "dysentery" OR "ischemic" OR "irritable bowel syndrome" OR "IBS" OR "healthy control" OR "healthy subject" OR "normal subject" OR "active phase" OR "active stage" OR "remission" OR "remission phase") #3 TS=("clinical presentation" OR "clinical features" OR "clinical symptoms" OR "extraintestinal manifestations" OR "hematochezia" OR "bloody stool" OR "rectal bleeding" OR "mucopurulent stool" OR "mucous stool" OR diarrhea OR diarrhoea OR "abdominal pain" OR tenesmus OR arthritis OR "joint disease" OR "erythema nodosum" OR pyoderma OR "oral ulcer" OR "aphthous ulcer" OR uveitis OR scleritis OR cholangitis OR anemia OR fever OR pyrexia OR "weight loss" OR emaciation OR "fecal calprotectin" OR "faecal calprotectin" OR "c-reactive protein" OR crp OR "erythrocyte sedimentation rate" OR esr OR "p-anca" OR "perinuclear antineutrophil cytoplasmic antibody") #4 TI=("prevalence" OR "incidence" OR "frequency" OR "occurrence" OR "rate" OR "proportion" OR "percentage" OR "composition ratio" OR "retrospective" OR "cross-sectional" OR "admitted") OR AK=("prevalence" OR "incidence" OR "frequency"

OR "occurrence" OR "rate" OR "proportion" OR "percentage" OR "composition ratio" OR "retrospective" OR "cross-sectional" OR "admitted" OR "sensitiv" OR "specificit" OR "diagnostic accuracy" OR "ROC curve" OR "AUC" OR "likelihood ratio" OR "diagnostic odds ratio" OR "positive predictive value" OR "negative predictive value")
#5 TI=("therapy" OR "therapeutic" OR "treatment" OR "efficacy" OR "effect" OR "intervention" OR "mechanism" OR "intervention group" OR "trial group" OR rat OR mouse)
#1 AND #2 AND #3 AND #4 NOT #5

CNKI: China National Knowledge Infrastructure; SinoMed: the Chinese Biomedical Literature Database; WanFang: the WanFang Database; VIP: the Chinese Scientific Journals Full-Text Database; Embase Database: Excerpta Medica Database; WOS Database: Web of Science Database.

Supplementary Table 2 Methodological quality assessment of included studies

Document Serial Number	Study	Risk of bias	1.Were the groups comparable other than presence of disease in cases or absence of disease in controls?		2.Were cases and controls matched appropriately?	3.Were the same criteria used for identification of cases and controls?		4.Was exposure measured in a standard, valid and reliable way?	5.Was exposure measured in the same way for cases and controls?	6.Were confounding factors identified?	7. Were strategies to deal with confounding factors stated?		8.Were outcomes assessed in a standard, valid and reliable way for cases and controls?		9.Was the exposure period of interest long enough to be meaningful?	10.Was appropriate statistical analysis used?
1	2024, An L	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes		Yes	Yes
2	2025, Chen LF	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes	Yes
3	2019, Shan CY	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes		Yes	Yes
4	2022, Guo SB	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes		Yes	Yes
5	2010, He C	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes		Yes	Yes
6	2012, Chen HL	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes		Yes	Yes
7	2021, Guo ZZ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes	Yes
8	2013, Chen GC	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
9	2008, Hua TY	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes		Yes	Yes
10	2019, Hua L	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes	Yes
11	2018, Gerile	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes	Yes
12	2024, He SB	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes	Yes
13	2017, Kou CX	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes	Yes
14	2009, Han XF	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes		Yes	Yes
15	2008, He B	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes	Yes
16	2008, Li J	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes		Yes	Yes
17	2012, Fan RY	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes		Yes	Yes
18	2009, Gu Y	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes		Yes	Yes
19	2012, Qiu L	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes	Yes
20	2024, Jiang M	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes		Yes	Yes
21	2025,Geng L	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes	Yes
22	2010, Gao B	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes

23	2022, Chen JY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	1997, Dong XY	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
25	2010, Chen FH	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	2023, Chang YL	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	2010, He XY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	2022, Dong LL	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	2011, Chen ML	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	2013, Han XF	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
31	2021, Ge QX	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	2023, Dai L	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
33	2021, Gao D	High risk	Unclear	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
34	2025, Chen LC	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	2017, Wen YL	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	Unclear	Yes	Yes	Yes
36	2016, Jing QS	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
37	2012, Jiang L	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
38	2020, Jin JW	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	2005, Gao X	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
40	2016, Huang J	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
41	2014, Huang YH	High risk	Unclear	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
42	2015, Huang SX	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	2020, Cui NL	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	2022, Qiao W	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	2023, Qiao XD	High risk	Unclear	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
46	2024, Yu JJ	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	2009,Zhong H	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
48	2017, Ren ZH	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
49	2011, Yu JB	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	2017, Liu GR	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
51	2018, Liu ZF	High risk	Unclear	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
52	2011, Liu YY	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
53	2025, Liu XN	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	2022, Liu YH	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	2016, Liu CH	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	2023, Liu XT	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	2014, Liu SL	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
58	2014, Liu X	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
59	2021, Liu Y	High risk	Unclear	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
60	2016, Liu AQ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
61	2018, Liu C	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
62	2012, Liu L	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
63	2020, Liu LL	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
64	2016, Liu L	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	2016, Zhuo XJ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	2016, Lu JJ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

67	2017, Lu JJ	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	2024, Lu K	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	2016, Wei L	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	2022, Ye ML	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
71	2016, Ye YN	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	2006, Xiang JY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	2018, Xiang M	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
74	2022, Lv HB	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
75	2016, Lv H	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
76	2007, Wu YM	High risk	Unclear	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
77	2019, Wu J	High risk	Unclear	No	Unclear	Yes	Yes	No	No	Yes	Yes	Yes
78	2025, Wu PX	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
79	2015, Wu TL	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
80	2017, Wu XF	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
81	2020, Zhou FX	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
82	2021, Zhou Q	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
83	2009, Zhou M	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
84	2020, Zhou J	High risk	No	No	Unclear	Yes	Yes	No	No	Yes	Yes	Yes
85	2021, Zhou J	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
86	2024, Zhou YY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
87	2009, Zhou Y	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Unclear	Yes	Yes
88	2010, Tang SY	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
89	2011, Tang K	High risk	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
90	2014, Tang C	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
91	2025, Tang YY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
92	2012, Qiang	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
93	2025, Yao ZZ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
94	2023, Sun YH	High risk	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
95	2024, Sun WK	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
96	2010, Meng H	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
97	2005, Song M	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
98	2021, Yin YY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
99	2017, Yin Q	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
100	2021, Yin X	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
101	2018, Qu X	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
102	2016, Yue YY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
103	2019, Zhuang XZ	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
104	2004, Pang Z	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
105	2019, Pang XJ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
106	2006, Yan H	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
107	2008, Zhang BJ	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
108	2023, Zhang D	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
109	2011, Zhang JY	High risk	Unclear	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
110	2016, Zhang W	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

111	2005, Zhang D	High risk	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
112	2019, Zhang TL	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
113	2021, Zhang XB	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
114	2023, Zhang XZ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
115	2020,Zhang F	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
116	2020, Zhang CF	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
117	2017, Zhang XX	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
118	2013, Zhang H	High risk	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
119	2019, Zhang YT	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
120	2017, Zhang L	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
121	2023, Zhang Y	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
122	2012, Zhang YJ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
123	2010, Zhang JW	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
124	2020, Zhang XQ	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
125	2001, Peng ZS	High risk	Unclear	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
126	2011, Peng XK	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
127	2002, Peng ZS	High risk	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
128	2017, Xu F	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
129	2018, Xu XF	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
130	2016, Han JS	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
131	2011, Qi HX	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
132	2017, Guan XM	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
133	2017, Zhu LX	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
134	2016, Zhu J	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
135	2022, Zhu XY	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
136	2013, Zhu ZH	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
137	2012, Zhu SJ	High risk	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
138	2009, Zhu Q	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
139	2015, Zhu Y	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
140	2023, Zhu L	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
141	2023, Zhu YQ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
142	2006, Li Y	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
143	2018, Li J	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
144	2016, Li QS	High risk	Yes	No	Unclear	Unclear	Unclear	No	No	Yes	Yes	Yes
145	1998, Li GQ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
146	2023, Li JB	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
147	2013, Li MR	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
148	2020, Li XM	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
149	2022, Li YC	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
150	2010, Li SF	High risk	No	No	Unclear	Yes	No	Yes	Yes	Yes	Yes	Yes
151	2020, Li YJ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
152	2025, Li YF	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
153	2019, Li YL	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
154	2021, Li QW	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

155	2013, Li QW	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
156	2024, Li P	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
157	2023, Li X	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
158	2010, Li YF	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
159	2010, Li JK	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
160	2006, Li QM	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
161	2003, Yang DQ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
162	2015, Yang J	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
163	2010, Yang D	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
164	2010, Yang XY	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
165	2014, Yang M	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
166	2010, Yang QQ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
167	2013, Yang RP	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
168	2016, Yang H	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
169	2018, Yang QZ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
170	2013, Yang M	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
171	2016, Lin ST	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
172	2018, Liang SQ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
173	2020, Ouyang XY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
174	2015, Yin R	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
175	2017, Mao JY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
176	2009, Wen XY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
177	2013, Du XJ	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
178	2022, Fu SH	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
179	2011, Pan WM	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
180	2012, Pan LJ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
181	2018, Zang FQ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
182	2005, Du JD	High risk	Unclear	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
183	2017, Cheng H	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
184	2023, Hong Q	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
185	2012, Dong YZ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
186	2007, Geng ED	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
187	2021, Gu DM	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
188	2021, Chen X	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
189	2024, Cao WT	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
190	2005, Gao X	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
191	2017, Cui XX	Low risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
192	2021, Han J	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
193	2016,Xiong Z	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
194	2000,Wang XD	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
195	2002, Wang YF	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
196	2005, Wang GL	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
197	2007, Wang BB	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
198	2009, Wang YQ	High risk	Unclear	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes

199	2012, Wang HL	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
200	2015, Wang YP	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
201	2016, Wang ZY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
202	2017, Wang F	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
203	2017, Wang L	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
204	2019, Wang Y	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
205	2016, Wang Q	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
206	2023, Wang F	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
207	2005, Wang XM	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
208	2008, Wang ZH	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
209	2012, Wang SD	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
210	2014, Wang P	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
211	2021, Wang HL	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
212	2022, Wang AQ	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
213	2022, Wang Y	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
214	2023, Wang X	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
215	2023, Wang XH	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
216	2023, Wang F	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
217	2024, Wang Y	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
218	2010, Wang G	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
219	2016, Wang Z	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
220	2019, Wang J	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
221	2024, Wang YH	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
222	2017, Wang QZ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
223	2018, Wang DX	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
224	2012, Tian JH	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
225	2007, Tian ZL	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
226	2011, Tian Y	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
227	2003, Shi ZX	High risk	Unclear	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
228	2008, Huang HL	High risk	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
229	2023, Luo YQ	High risk	Unclear	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
230	2012, Luo LC	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
231	2025, Chen CF	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
232	2020, Xu CH	High risk	Unclear	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
233	2019, Shu LQ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
234	2022, Su SL	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
235	2003, Su Y	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
236	2023, Xue XC	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
237	2024, Xue XC	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
238	2006, Xue HP	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
239	2011, Xue FM	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
240	2020, Cai JR	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
241	2019, Fu SN	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
242	2020, Bi YC	High risk	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes

243	2016, Fan RY	High risk	No	No	Yes	Yes	Unclear	No	No	Yes	Yes	Yes
244	2024, Gong L	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
245	2024, Cui T	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
246	2017, Cao TT	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
247	2017, Xu LZ	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes
248	2018, Xu XH	High risk	Unclear	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
249	2023, Xu XY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
250	2016, Xu LF	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes
251	2013, Xie W	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
252	2014, Xie CL	High risk	No	No	Yes	Yes	Yes	Yes	Unclear	No	Yes	Yes
253	2008, Xie F	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
254	2010, Xie CH	High risk	No	No	Yes	Yes	Yes	No	Unclear	No	Yes	Yes
255	2011, Tan L	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
256	2019, Tan X	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
257	2015, Tan LC	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
258	2021, Lai XX	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
259	2017, Zhao YX	Moderate risk	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
260	2021, Zhao SF	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
261	2017, Zhao M	High risk	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
262	2014, Zhao XJ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
263	2022, Xing RX	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
264	2010, Qiu JY	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes
265	2015, Zou P	High risk	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
266	2015, Zheng Y	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
267	2009, Zheng ED	High risk	No	No	Yes	Yes	Yes	No	No	No	Yes	Yes
268	2020, Zhong YY	High risk	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
269	2022, Zhong XF	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
270	2016, Ruan SL	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes
271	2017, Lu HG	High risk	Unclear	No	Yes	Yes	Yes	No	No	No	Yes	Yes
272	2011, Lu CX	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
273	2007, Lu FL	High risk	No	No	Yes	Yes	Yes	No	No	No	Yes	Yes
274	2020, He YN	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
275	2023, Ma ZM	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
276	2014, Ma DH	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
277	2008, Ma LT	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
278	2020, Ma LF	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
279	2016, Ma XB	Moderate risk	Yes	No	Yes	Yes	Yes	No	Unclear	No	Yes	Yes
280	2018, Ma XY	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
281	2024, Ma X	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
282	2023, Ma CY	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
283	2015, Ma R	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
284	2019, Ma Y	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
285	2019, Lu X	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
286	2018, Li AL	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes

287	2008, Cui LH	High risk	Unclear	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
288	2020, Adam H	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
289	2009, Ahmaida A	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
290	2012, Jarallah K	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
291	2025, Aljiffry MM	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
292	2017, Alper A	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
293	1995, Aeber N	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
294	2009, Ashorn S	Moderate risk	Yes	No	Yes	Yes	Yes	No	Unclear	No	Yes	Yes
295	2016, Atug˘O	High risk	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
296	2015, Bandyopadhyay D	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
297	2023, Banerjee R	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
298	2020, Basso D	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
299	2005, Basu D	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
300	2016, Bequet E	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
301	2005, Bernstein CN	Moderate risk	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
302	2012, Bernstein MT	Moderate risk	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
303	2020, Bertolinia E	Moderate risk	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
304	2008, Beslek A	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
305	2024, Bhattarai K	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
306	2015, Bjarnason I	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
307	2017, Johan B	High risk	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
308	2009,Cakal B	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
309	2018, CARDONEANU A	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
310	2008, Castro M	High risk	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
311	2017, Chan J	High risk	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
312	2015, Fang S	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
313	2010, Cury DB	Moderate risk	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
314	2025,D'Arcangelo G	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
315	2021, Dawwas GK	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
316	2010, Dotson JL	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
317	1998, Folwaczny C	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
318	2021, Foteinogiannopoulou H	Low risk	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
319	2022, Gordon BL	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
320	2017, Halling ML	Moderate risk	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
321	2002, Halme L	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
322	2008, Hatemi I	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
323	1995, Hertervig E	Low risk	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
324	2018, Herzog D	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
325	2016, Hoekman DR	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
326	2023, Hsiao PY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
327	2023, Chen ZC	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
328	2025, Huang XG	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
329	2019, Huh G	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
330	1995, Hyams J	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes

331	2020, Cao Q	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
332	2023, Lawati TT	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
333	2015, Jain SS	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
334	2006, Jiang L	Moderate risk	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
335	2018, Kalubowila U	High risk	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
336	2015, Kappelman MD	Moderate risk	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
337	2016, Karmiris K	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
338	2024, Khanmohammadi S	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
339	2010, Kim BJ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
340	2014, DARINA K	Moderate risk	Yes	No	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes
341	2015, Koutroubakis IE	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
342	2003, Koutroubakis IE	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
343	2008, Lanna CC	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Unclear	Yes	Yes
344	2024, Lasa J	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
345	2016, Li YC	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
346	2017, Lucendo AJ	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
347	2017, Ludvigsson JF	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
348	2016, Lunder AK	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
349	2014, Lupu A	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
350	2017, Malaty HM	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
351	2002,Mamula p	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
352	2017,Matar M	Moderate risk	Unclear	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
353	2017, Moein S	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
354	1996, Monteleone G	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
355	2007, Xiao MY	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
356	2022, Nicklason E	Low risk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
357	2025, Omer N	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
358	2001, Osangthamnont C	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
359	2008, Otta C	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
360	2009, Park JJ	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
361	2006, Perminow G	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
362	2023, Pivac I	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
363	2022, Guo LX	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
364	2013, Chen ZT	Moderate risk	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Yes
365	2022, Rahmani P	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
366	2010, Rieder F	High risk	Yes	No	Unclear	Unclear	Unclear	Yes	Yes	Unclear	Yes	Yes
367	2025, Samolygo IS	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
368	2008, Schoepfer AM	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
369	2015, Singh B	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
370	2002, Souza MHL P	Moderate risk	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
371	2004, Street ME	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
372	1998, Suh CH	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes
373	2021, Sulkanen E	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
374	1994, Sung JY	Low risk	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Yes

375	2020, Gao YT	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Unclear	Yes	Yes
376	2021, Teich N	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
377	2023, Uhlir V	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
378	2011, Vavricka SR	Low risk	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
379	2001, Verbraak FD	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
380	2017, Vicentín R	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
381	2023, Viganò C	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
382	1997, Walmsley RS	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
383	2017, Wang ZZ	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
384	2003, Weinstein TA	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
385	1996, Yang P	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
386	2018, Yang BR	Moderate risk	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
387	2023, Yeo MK	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
388	2007, Yilmaz S	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
389	2016, Zhou Y	Moderate risk	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

Detailed citation information for all included studies is available in the public database at <https://doi.org/10.57760/sciencedb.33517>, together with the full dataset deposited by the authors.

Supplementary Table 3 Sensitivity analysis for meta-analysis results

	Main analyses			GLLM			Excluding studies with high risk of bias		
	No. of data points	Effect size, (95% CI)	<i>I</i> ² ,%	Data points removed	Effect size, (95% CI)	<i>I</i> ² ,%	Data points removed	Effect size, (95% CI)	<i>I</i> ² ,%
Gastrointestinal manifestations(OR)									
Diarrhea for Ulcerative colitis VS. Crohn’s disease	90	2.8354 (2.1042; 3.8207)	91.9	0	2.9362 (2.1444; 4.0204)	91.8	27	2.6276 (1.9193; 3.5973)	89.4
Diarrhea for Ulcerative colitis VS. Ischemic colitis	20	3.6189 (1.9834; 6.6029)	79.2	0	3.7427 (2.0415; 6.8614)	82.5	14	3.4775 (1.6139; 7.4930)	65.9
Abdominal pain for Ulcerative colitis VS. Crohn’s disease	97	0.6813 (0.5385; 0.8620)	82.2	0	0.6721 (0.5017; 0.9004)	91.9	28	0.5561 (0.4462; 0.6930)	74.4
Abdominal pain for Ulcerative colitis VS. Ischemic colitis	20	0.7049 (0.3922; 1.2671)	68.8	0	0.6560 (0.3118; 1.3801)	82.3	14	0.3327 (0.1124; 0.9853)	73.2
Abdominal distension for Ulcerative colitis VS. Crohn’s disease	24	0.6236 (0.4878; 0.7972)	44	0	0.7936 (0.7851; 0.8022)	79.2	7	0.6577 (0.4964; 0.8712)	36.9
Abdominal masses for Ulcerative colitis VS. Crohn’s disease	31	0.1156 (0.0567; 0.2359)	62.6	0	0.0228 (0.0044; 0.1169)	87.4	11	0.0959 (0.0494; 0.1861)	25.1
Constipation for Ulcerative colitis VS. Crohn’s disease	13	0.7023 (0.4373; 1.1278)	1.8	0	0.7960 (0.4676; 1.3552)	25.2	3	0.6680 (0.3451; 1.2930)	24.2
Hematochezia for Ulcerative colitis VS. Crohn’s disease	67	4.9720 (3.2464; 7.6149)	86	0	5.0476 (2.9511; 8.6336)	95.8	18	5.3367 (3.2916; 8.6522)	85.2
Hematochezia for Ulcerative colitis VS. Ischemic colitis	20	0.2188 (0.0928; 0.5157)	89.1	0	0.1936 (0.0789; 0.4754)	90.1	14	0.2111 (0.0303; 1.4689)	94.1
Mucous stools for Ulcerative colitis VS. Crohn’s disease	15	3.8432 (2.3049; 6.4084)	74	0	4.6730 (2.4762; 8.8185)	88.2	6	2.7267 (0.9543; 7.7904)	82.5
Mucopurulent bloody stools for Ulcerative colitis VS. Crohn’s disease	32	13.3297 (8.2855; 21.4449)	77.2	0	18.5710 (10.1854; 33.8604)	86.8	10	14.9996 (9.7897; 22.9819)	58.5
Mucopurulent bloody stools for Ulcerative colitis VS. Ischemic colitis	14	20.6811 (10.9195; 39.1691)	29.1	0	38.7250 (15.2230; 98.5102)	57.7	8	30.5699 (8.7539; 106.7538)	60.6
Tenesmus for Ulcerative colitis VS. Crohn’s disease	35	4.0594 (2.9461; 5.5933)	54.2	0	6.4156 (3.8829; 10.6003)	81.7	10	3.7905 (2.4227; 5.9303)	58.1
Tenesmus for Ulcerative colitis VS. Ischemic colitis	10	8.9284 (4.0814; 19.5315)	8.2	0	3065.6097 (0.1462; 64298548.7411)	91.3	6	10.4596 (1.9260; 56.8036)	56.3
Perianal fistulae for Ulcerative colitis VS. Crohn’s disease	16	0.0769 (0.0438; 0.1350)	25.2	0	0.0517 (0.0244; 0.1097)	47.5	6	0.0921 (0.0411; 0.2062)	31.3
Perianal abscesses for Ulcerative colitis VS. Crohn’s disease	22	0.1328 (0.0555; 0.3177)	69.7	0	0.0243 (0.0024; 0.2427)	93.5	7	0.2203 (0.0715; 0.6790)	74.2
Upper gastrointestinal symptoms for Ulcerative colitis VS. Crohn’s disease	20	0.5823 (0.3765; 0.9004)	66.8	0	0.5307 (0.3348; 0.8413)	65.7	4	0.6653 (0.4064; 1.0890)	63.3
Systemic symptoms(OR)									
Anemia for Ulcerative colitis VS. Crohn’s disease	45	0.5845 (0.4900; 0.6973)	69.8	1	0.5737 (0.4350; 0.7566)	90.9	14	0.6045 (0.4721; 0.7741)	74.5
Fatigue for Ulcerative colitis VS. Crohn’s disease	12	0.8994 (0.5129; 1.5773)	78.8	0	0.9420 (0.5394; 1.6453)	72	2	0.9430 (0.6258; 1.4209)	29.5
Fever for Ulcerative colitis VS. Crohn’s disease	67	0.6065 (0.5041; 0.7297)	63.9	0	0.6157 (0.4929; 0.7689)	71.3	19	0.5903 (0.4860; 0.7170)	36.5

Fever for Ulcerative colitis VS. Ischemic colitis	11	0.7294 (0.4197; 1.2676)	22.7	0	0.7745 (0.4477; 1.3397)	30.9	6	1.2378 (0.5241; 2.9232)	24.9
Weight loss for Ulcerative colitis VS. Crohn’s disease	57	0.4922 (0.4076; 0.5943)	71.4	0	0.4324 (0.3345; 0.5591)	83	14	0.5051 (0.4109; 0.6210)	62.3
Extraintestinal manifestations(OR)									
Overall extraintestinal manifestations for Ulcerative colitis VS. Crohn’s disease	37	0.4676 (0.3596; 0.6081)	90	0	0.4582 (0.3518; 0.5968)	80.5	11	0.5674 (0.4220; 0.7631)	90.5
Arthritis for Ulcerative colitis VS. Crohn’s disease	83	0.6018 (0.5059; 0.7159)	86.7	0	0.5996 (0.4955; 0.7256)	88.3	18	0.6284 (0.5196; 0.7598)	87.4
Oral lesions for Ulcerative colitis VS. Crohn’s disease	51	0.3176 (0.2285; 0.4414)	61.8	0	0.2602 (0.1702; 0.3979)	79.5	11	0.3515 (0.2470; 0.5002)	60.6
Dermatological lesions for Ulcerative colitis VS. Crohn’s disease	72	0.5394 (0.4539; 0.6411)	56.4	0	0.5506 (0.4575; 0.6627)	60.2	13	0.5436 (0.4516; 0.6544)	60.8
Ocular lesions for Ulcerative colitis VS. Crohn’s disease	45	0.6127 (0.4712; 0.7968)	57.9	0	0.6365 (0.4837; 0.8376)	57.1	7	0.6626 (0.5030; 0.8727)	60
Hepatobiliary involvement for Ulcerative colitis VS. Crohn’s disease	44	1.2127 (0.8564; 1.7171)	82.2	0	1.3255 (0.8993; 1.9536)	87.6	8	1.2977 (0.8866; 1.8995)	82.3
Laboratory biomarkers(OR/MD)									
FC positivity(OR) for Ulcerative colitis VS. Crohn’s disease	10	0.8029 (0.3844; 1.6770)	75.2	1	0.7782 (0.3797; 1.5951)	79	2	0.7355 (0.2853; 1.8959)	80.7
p-ANCApositivity(OR) for Ulcerative colitis VS. Crohn’s disease	47	8.7037 (6.6969; 11.3119)	53.3	0	10.6038 (7.7887; 14.4365)	64.4	7	9.3800 (7.0066; 12.5572)	51
p-ANCApositivity(OR) for Ulcerative colitis VS. Healthy controls	28	41.5012 (25.1279; 68.5433)	34.2	0	117.5185 (47.3101; 291.9165)	65.7	5	40.7843 (23.0251; 72.2411)	41.8
ESR positivity(OR) for Ulcerative colitis VS. Crohn’s disease	16	0.5707 (0.4029; 0.8084)	29.4	0	0.5722 (0.4069; 0.8047)	31.8	3	0.4890 (0.3384; 0.7066)	19.8
ESR levels (MD) for Ulcerative colitis VS. Crohn’s disease	40	-2.8644 (-4.9876; -0.7413)	75.8	Nea	Nea	Nea	3	-2.8446 (-5.1709; -0.5182)	76.4
ESR levels (MD) for Ulcerative colitis VS. Healthy controls	46	17.5460 (14.2601; 20.8319)	99.5	Nea	Nea	Nea	1	17.4786 (14.1211; 20.8362)	99.5
CRP positivity(OR) for Ulcerative colitis VS. Crohn’s disease	25	0.7290 (0.5448; 0.9754)	51.7	0	0.6766 (0.4889; 0.9366)	60.3	3	0.6716 (0.5033; 0.8961)	46.8
CRP levels (MD) for Ulcerative colitis VS. Crohn’s disease	36	-3.7779 (-6.0523; -1.5034)	93	Nea	Nea	Nea	3	-3.4030 (-5.7763; -1.0296)	93.5
CRP levels (MD) for Ulcerative colitis VS. Healthy controls	81	15.1260 (12.1893; 18.0627)	99.9	Nea	Nea	Nea	1	15.1524 (12.1781; 18.1266)	99.9
Laboratory biomarkers in active UC compared to clinical remission and healthy controls (MD)									
ESR levels for Ulcerative colitis VS. Healthy controls	24	17.3976 (13.4156; 21.3795)	99.5	Nea	Nea	Nea	2	17.4961 (13.2725; 21.7197)	99.6
ESR levels for ulcerative colitis vs. Ulcerative colitis in remission	42	14.3271 (11.9291; 16.7250)	98.7	Nea	Nea	Nea	3	14.0108 (11.5098; 16.5118)	97.8
CRP levels for Ulcerative colitis VS. Healthy controls	38	16.8091 (12.6667; 20.9516)	99.9	Nea	Nea	Nea	3	17.4017 (12.9432; 21.8602)	99.9
CRP levels for ulcerative colitis vs. Ulcerative colitis in remission	67	13.2254 (10.7910; 15.6598)	99.4	Nea	Nea	Nea	7	12.9279 (10.2295; 15.6262)	99.4

The ‘main analyses’ columns are taken from Tables 2-6; OR, odds ratio; MD, mean difference; *CI*, Confidence interval; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; p-ANCA, perinuclear anti-neutrophil cytoplasmic antibodies; FC, fecal calprotectin. Ne^a, Not performed. For continuous outcomes, only aggregate study-level summary statistics (mean/SD/n) were available; thus alternative mixed-effects implementations are mathematically equivalent to the inverse-variance random-effects model used in the primary analysis and provide negligible additional information; Ne^b, No studies were excluded, so there is no need to perform this sensitivity analysis

Supplementary Table 4 Assessment of publication bias

	Egger t value (P value)
UC compared to differential diagnoses	
Diarrhea for Ulcerative colitis VS. Crohn’s disease	1.87 (0.0653)
Diarrhea for Ulcerative colitis VS. Ischemic colitis	1.03 (0.3151)
Abdominal distension for Ulcerative colitis VS. Crohn’s disease	1.07 (0.2963)
Abdominal pain for Ulcerative colitis VS. Crohn’s disease	1.06 (0.2925)
Abdominal pain for Ulcerative colitis VS. Ischemic colitis	-0.93 (0.3632)
abdominal masses for Ulcerative colitis VS. Crohn’s disease	-0.71 (0.4808)
Constipation for Ulcerative colitis VS. Crohn’s disease	-0.51 (0.6207)
Hematochezia for Ulcerative colitis VS. Crohn’s disease	0.46 (0.6447)
Hematochezia for Ulcerative colitis VS. Ischemic colitis	-3.94 (0.0010)
Mucous stools for Ulcerative colitis VS. Crohn’s disease	-0.69 (0.5031)
Bloody mucopurulent stool for Ulcerative colitis VS. Crohn’s disease	1.44 (0.1605)
Bloody mucopurulent stool for Ulcerative colitis VS. Ischemic colitis	3.12 (0.0089)
Tenesmus for Ulcerative colitis VS. Crohn’s disease	3.01 (0.0050)
Tenesmus for Ulcerative colitis VS. Ischemic colitis	6.65 (2e-04)
Perianal fistulae for Ulcerative colitis VS. Crohn’s disease	0.74 (0.4744)
Perianal abscesses for Ulcerative colitis VS. Crohn’s disease	-2.57 (0.0184)
Upper gastrointestinal symptoms for Ulcerative colitis VS. Crohn’s disease	-0.57 (0.5742)
Anemia for Ulcerative colitis VS. Crohn’s disease	-0.57 (0.5719)
Fatigue for Ulcerative colitis VS. Crohn’s disease	1.31 (0.2211)
Fever for Ulcerative colitis VS. Crohn’s disease	1.88 (0.0653)
Fever for Ulcerative colitis VS. Ischemic colitis	0.99 (0.3469)
Weight loss for Ulcerative colitis VS. Crohn’s disease	-0.75 (0.4594)
Overall extraintestinal manifestations for Ulcerative colitis VS. Crohn’s disease	-3.64 (9e-04)
Arthritis for Ulcerative colitis VS. Crohn’s disease	-4.30 (<0.0001)
Oral lesions for Ulcerative colitis VS. Crohn’s disease	-1.50 (0.1390)
Dermatological manifestations for Ulcerative colitis VS. Crohn’s disease	-4.19 (<0.0001)
Ocular involvement for Ulcerative colitis VS. Crohn’s disease	-2.27 (0.0283)
Hepatobiliary involvement for Ulcerative colitis VS. Crohn’s disease	1.70 (0.0958)
FC positivity for Ulcerative colitis VS. Crohn’s disease	-1.45 (0.1856)
p-ANCA positivity for Ulcerative colitis VS. Crohn’s disease	3.84 (4e-04)
ESR positivity for Ulcerative colitis VS. Crohn’s disease	0.53 (0.6075)
ESR levels for Ulcerative colitis VS. Crohn’s disease	-2.83 (0.0074)
CRP positivity for Ulcerative colitis VS. Crohn’s disease	-2.29 (0.0314)
CRP levels for Ulcerative colitis VS. Crohn’s disease	-1.16 (0.2524)
Biomarkers in active UC compared to clinical remission and healthy controls	
CRP levels for Active ulcerative colitis vs. Healthy controls	0.28 (0.7843)
CRP levels for Active ulcerative colitis vs. Ulcerative colitis in remission	3.28 (0.0017)
ESR levels for Active ulcerative colitis vs. Healthy controls	1.29 (0.2108)
ESR levels for Active ulcerative colitis vs. Ulcerative colitis in remission	3.42 (0.0014)

Ne, The number of literature is less than 10, test was not performed; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; p-ANCA, perinuclear anti-neutrophil cytoplasmic antibodies; FC, fecal calprotectin.

Supplementary Table 5 Subgroup analyses of clinical features and laboratory biomarker in ulcerative colitis versus controls

	No. of data points	Effect size (95% CI)	I ²	Between groups' Q value (P value)
	No. of data points	Effect size (95% CI)	I ²	Between groups' Q value (P value)
Diarrhea for Ulcerative colitis VS. Crohn's disease (OR)	90	2.8354 (2.1042; 3.8207)	91.90%	
Geographical location				3.06 (0.0802)
China	76	3.1913 (2.334; 4.3635)	86%	
Other countries	14	1.45 (0.6345; 3.3137)	97.4%	
Study design				0.26 (0.6122)
Retrospective study	86	2.763 (2.0453; 3.7327)	89.9%	
Prospective study	4	4.4206 (0.7369; 26.5202)	95.9%	
Diagnostic standards				0.06 (0.8138)
Reported	67	2.9066 (2.091; 4.0402)	86.5%	
Not reported	23	2.6534 (1.3405; 5.2522)	96.3%	
Diarrhea for Ulcerative colitis VS. Ischemic colitis (OR)	20	3.6189 (1.9834; 6.6029)	79.20%	
Study design				2 (0.1574)
Retrospective study	10	2.1911 (1.5374; 3.1228)	53.1%	
Prospective study	10	4.7214 (1.731; 12.878)	85.5%	
Abdominal pain for Ulcerative colitis VS. Crohn's disease (OR)	97	0.6813 (0.5385; 0.8620)	82.20%	
Geographical location				0 (0.9689)
China	77	0.6946 (0.5399; 0.8935)	81%	
Other countries	20	0.7061 (0.3216; 1.5501)	84.8%	
Study design				0.16 (0.6932)
Retrospective study	90	0.6642 (0.5262; 0.8384)	81.8%	
Prospective study	7	1.0504 (0.1091; 10.1146)	86.2%	
Diagnostic standards				0.05 (0.8288)
Reported	69	0.6765 (0.5167; 0.8858)	81.8%	
Not reported	28	0.7234 (0.4196; 1.2473)	83.3%	
Abdominal pain for Ulcerative colitis VS. Ischemic colitis (OR)	20	0.7049 (0.3922; 1.2671)	68.80%	
Diagnostic standards				4.2 (0.04053)
Reported	10	0.4 (0.1778; 0.8996)	67.7%	
Not reported	10	1.2331 (0.6064; 2.5076)	62.9%	
Abdominal masses for Ulcerative colitis VS. Crohn's disease (OR)	31	0.1156 (0.0567; 0.2359)	62.60%	
Diagnostic standards				2.62 (0.1053)
Reported	27	0.0866 (0.0427; 0.1755)	54.8%	
Not reported	4	0.7903 (0.0598; 10.4406)	82.3%	
Hematochezia for Ulcerative colitis VS. Crohn's disease (OR)	67	4.972 (3.2464; 7.6149)	86.00%	
Geographical location				0.75 (0.3851)
China	51	4.4805 (2.7561; 7.2837)	87.4%	
Other countries	16	7.0639 (2.8574; 17.4633)	79.6%	
Study design				0 (0.994)
Retrospective study	61	4.9966 (3.3111; 7.5402)	86%	
Prospective study	6	4.9365 (0.2116; 115.1455)	87.9%	

Diagnostic standards				0 (0.9811)
Reported	47	5.0468 (3.2911; 7.739)	82.8%	
Not reported	20	5.1149 (1.8387; 14.2287)	90.4%	
Hematochezia for Ulcerative colitis VS. Ischemic colitis (OR)	20	0.2188 (0.0928; 0.5157)	89.10%	
Diagnostic standards				0.24 (0.6219)
Reported	10	0.1759 (0.0493; 0.627)	91.4%	
Not reported	10	0.2727 (0.0828; 0.8985)	86.1%	
Mucous stools for Ulcerative colitis VS. Crohn’s disease (OR)	15	3.8432 (2.3049; 6.4084)	74.00%	
Geographical location				0.31 (0.5802)
China	13	4.3125 (2.8101; 6.6181)	72.8%	
Other countries	2	1.9478 (0.1204; 31.5106)	78.9%	
Study design				0.31 (0.5802)
Retrospective study	13	4.3125 (2.8101; 6.6181)	72.8%	
Prospective study	2	1.9478 (0.1204; 31.5106)	78.9%	
Diagnostic standards				0.37 (0.5449)
Reported	12	4.2684 (2.5103; 7.2575)	74.8%	
Not reported	3	2.5723 (0.5453; 12.1333)	77.3%	
Bloody mucopurulent stools for Ulcerative colitis VS. Crohn’s disease (OR)	32	13.3297 (8.2855; 21.4449)	77.20%	
Diagnostic standards				0.39 (0.5322)
Reported	27	12.5521 (7.3459; 21.448)	79.3%	
Not reported	5	17.2493 (7.4377; 40.0043)	50.8%	
Tenesmus for Ulcerative colitis VS. Crohn’s disease (OR)	35	3.7201 (2.7546; 5.0238)	54.30%	
Geographical location				0.58 (0.4446)
China	30	4.331 (3.121; 6.0101)	50.6%	
Other countries	5	2.6551 (0.791; 8.912)	72.4%	
Study design				0.05 (0.8292)
Retrospective study	32	4.1631 (3.1032; 5.585)	47.3%	
Prospective study	3	3.1069 (0.2212; 43.632)	79.5%	
Diagnostic standards				0.19 (0.6626)
Reported	25	3.8837 (2.717; 5.5512)	46.1%	
Not reported	10	4.721 (2.1191; 10.5176)	69.2%	
Perianal abscesses for Ulcerative colitis VS. Crohn’s disease (OR)	22	0.1328 (0.0555; 0.3177)	69.70%	
Diagnostic standards				23.98 (< 0.0001)
Reported	21	0.1112 (0.0541; 0.2286)	0.6%	
Not reported	1	179.4 (10.2022; 3154.653)	NA%	
Upper gastrointestinal symptoms for Ulcerative colitis VS. Crohn’s disease (OR)	20	0.5823 (0.3765; 0.9004)	66.80%	
Geographical location				0 (0.9549)
China	9	0.579 (0.2824; 1.1874)	70%	
Other countries	11	0.5641 (0.3247; 0.9801)	60.4%	
Study design				0.18 (0.6747)
Retrospective study	18	0.5608 (0.3499; 0.8989)	67.7%	
Prospective study	2	0.829 (0.1421; 4.8353)	77.4%	
Diagnostic standards				0.04 (0.8428)
Reported	11	0.5982 (0.3132; 1.1423)	69.4%	

Not reported	9	0.5475 (0.3041; 0.9859)	61.1%	
Anemia for Ulcerative colitis VS. Crohn’s disease (OR)	45	0.5845 (0.4900; 0.6973)	69.80%	
Geographical location				16.58 (< 0.0001)
China	34	0.4568 (0.3959; 0.5272)	48.8%	
Other countries	11	0.8473 (0.653; 1.0996)	70.4%	
Study design				0.4 (0.528)
Retrospective study	41	0.5682 (0.4781; 0.6753)	67.9%	
Prospective study	4	0.7367 (0.335; 1.6199)	85.1%	
Diagnostic standards				4.56 (0.03273)
Reported	31	0.4876 (0.3959; 0.6005)	52.5%	
Not reported	14	0.7 (0.5406; 0.9063)	81.6%	
Fatigue for Ulcerative colitis VS. Crohn’s disease (OR)	12	0.8994 (0.5129; 1.5773)	78.80%	
Geographical location				0.97 (0.3246)
China	7	1.2152 (0.6237; 2.3676)	48.1%	
Other countries	5	0.705 (0.3001; 1.6559)	80.3%	
Study design				1.18 (0.2769)
Retrospective study	11	0.8414 (0.455; 1.556)	0.8%	
Prospective study	1	1.5674 (0.6136; 4.0034)	NA%	
Diagnostic standards				2.45 (0.1173)
Reported	8	1.3294 (0.7868; 2.246)	39.6%	
Not reported	4	0.5622 (0.2195; 1.4401)	76.7%	
Fever for Ulcerative colitis VS. Crohn’s disease (OR)	67	0.6065 (0.5041; 0.7297)	63.90%	
Geographical location				50.1 (< 0.0001)
China	59	0.658 (0.5489; 0.7886)	50%	
Other countries	8	0.2192 (0.1717; 0.28)	0%	
Study design				2.21 (0.1375)
Retrospective study	64	0.6205 (0.5139; 0.7492)	65%	
Prospective study	3	0.2977 (0.1151; 0.7702)	0%	
Diagnostic standards				1.07 (0.3017)
Reported	52	0.6456 (0.5477; 0.7611)	38.4%	
Not reported	15	0.4874 (0.2934; 0.8096)	82.8%	
Weight loss for Ulcerative colitis VS. Crohn’s disease (OR)	57	0.4922 (0.4076; 0.5943)	71.40%	
Geographical location				1.39 (0.2385)
China	46	0.5211 (0.4257; 0.6378)	67.4%	
Other countries	11	0.3815 (0.2367; 0.615)	63.2%	
Study design				0.56 (0.4555)
Retrospective study	54	0.5007 (0.4137; 0.6061)	71.8%	
Prospective study	3	0.2676 (0.0522; 1.3717)	74.7%	
Diagnostic standards				1.38 (0.2405)
Reported	42	0.5254 (0.4236; 0.6518)	68.1%	
Not reported	15	0.4027 (0.2731; 0.5939)	71.8%	
Overall extraintestinal manifestations for Ulcerative colitis VS. Crohn’s disease (OR)	37	0.4676 (0.3596; 0.6081)	90.00%	
Geographical location				4.79 (0.02855)
China	24	0.3656 (0.2662; 0.5023)	53.4%	

Other countries	13	0.6522 (0.4331; 0.9819)	94.9%	
Study design				4.27 (0.03872)
Retrospective study	34	0.4436 (0.336; 0.5856)	90.8%	
Prospective study	3	0.8007 (0.4924; 1.302)	0%	
Diagnostic standards				1.52 (0.2178)
Reported	27	0.4103 (0.3077; 0.5473)	60.8%	
Not reported	10	0.5928 (0.3562; 0.9865)	93.7%	
Arthritis for Ulcerative colitis VS. Crohn's disease (OR)	83	0.6018 (0.5059; 0.7159)	86.70%	
Geographical location				0.18 (0.6703)
China	48	0.626 (0.4928; 0.7952)	23.2%	
Other countries	35	0.5815 (0.4572; 0.7396)	93.6%	
Study design				0.15 (0.7017)
Retrospective study	76	0.6105 (0.5119; 0.7281)	87.2%	
Prospective study	7	0.5049 (0.194; 1.3137)	76.3%	
Diagnostic standards				0.02 (0.8973)
Reported	45	0.5853 (0.4668; 0.734)	31.7%	
Not reported	38	0.5983 (0.4681; 0.7649)	91.9%	
Oral lesions for Ulcerative colitis VS. Crohn's disease (OR)	51	0.3176 (0.2285; 0.4414)	61.80%	
Geographical location				2.49 (0.1148)
China	40	0.2679 (0.1755; 0.4088)	59.2%	
Other countries	11	0.4404 (0.2806; 0.6912)	69.4%	
Study design				0.41 (0.52)
Retrospective study	49	0.3104 (0.2205; 0.437)	62.6%	
Prospective study	2	0.4833 (0.1311; 1.7815)	43.7%	
Diagnostic standards				2.92 (0.08726)
Reported	38	0.2614 (0.1833; 0.3726)	42%	
Not reported	13	0.4873 (0.2622; 0.9057)	78.2%	
Dermatological manifestations for Ulcerative colitis VS. Crohn's disease (OR)	72	0.5394 (0.4539; 0.6411)	56.40%	
Geographical location				0.56 (0.4524)
China	43	0.4966 (0.3738; 0.6598)	3.7%	
Other countries	29	0.5691 (0.4598; 0.7043)	72.4%	
Study design				0.03 (0.8668)
Retrospective study	67	0.5399 (0.4526; 0.644)	58.4%	
Prospective study	5	0.497 (0.1918; 1.2876)	0%	
Diagnostic standards				1.05 (0.3058)
Reported	42	0.4857 (0.3769; 0.6258)	0%	
Not reported	30	0.5806 (0.4617; 0.73)	71.6%	
Ocular involvement for Ulcerative colitis VS. Crohn's disease (OR)	45	0.6127 (0.4712; 0.7968)	57.90%	
Geographical location				1.79 (0.181)
China	20	0.4274 (0.2464; 0.7411)	0%	
Other countries	25	0.6541 (0.488; 0.8766)	72.3%	
Study design				2.07 (0.1507)
Retrospective study	41	0.5772 (0.4424; 0.7531)	58.7%	
Prospective study	4	1.3984 (0.4309; 4.5378)	43.3%	

Diagnostic standards				0.26 (0.6085)
Reported	18	0.6776 (0.4464; 1.0286)	0%	
Not reported	27	0.5905 (0.4286; 0.8137)	72.6%	
Hepatobiliary involvement for Ulcerative colitis VS. Crohn's disease (OR)	44	1.2127 (0.8564; 1.7171)	82.20%	
Geographical location				9.7 (0.001845)
China	18	0.6531 (0.4093; 1.0422)	40.7%	
Other countries	26	1.7637 (1.1642; 2.6718)	88.1%	
Study design				0 (0.9761)
Retrospective study	41	1.212 (0.8421; 1.7443)	83.2%	
Prospective study	3	1.1852 (0.2888; 4.8639)	46.3%	
Diagnostic standards				2.12 (0.1452)
Reported	18	0.869 (0.5043; 1.4973)	49.6%	
Not reported	26	1.458 (0.944; 2.252)	88%	
FC positivity for Ulcerative colitis VS. Crohn's disease (OR)	10	0.8029 (0.3844; 1.6770)	75.20%	
Geographical location				0.21 (0.6457)
China	6	0.7006 (0.2476; 1.9828)	80.7%	
Other countries	4	1.0026 (0.3274; 3.0707)	68%	
Study design				0.54 (0.4631)
Retrospective study	8	1.0483 (0.5767; 1.9056)	55.7%	
Prospective study	2	0.3085 (0.0124; 7.6662)	94.6%	
Diagnostic standards				0.11 (0.7417)
Reported	4	0.6847 (0.1326; 3.5371)	87.7%	
Not reported	6	0.9251 (0.4554; 1.8793)	57%	
p-ANCA pisitivity for Ulcerative colitis VS. Crohn's disease (OR)	47	8.7037 (6.6969; 11.3119)	53.30%	
Geographical location				0.02 (0.8953)
China	37	8.6741 (6.288; 11.9659)	53.7%	
Other countries	10	8.9985 (5.7819; 14.0044)	55.7%	
Study design				0.18 (0.6703)
Retrospective study	40	8.5941 (6.4076; 11.5269)	55.7%	
Prospective study	7	9.6907 (6.0656; 15.4824)	29.7%	
Diagnostic standards				0.03 (0.8696)
Reported	33	8.9207 (6.3871; 12.4592)	56.1%	
Not reported	14	8.5279 (5.5964; 12.9951)	48.8%	
CRP positivity for Ulcerative colitis VS. Crohn's disease (OR)	25	0.729 (0.5448; 0.9754)	51.70%	
Geographical location				0.59 (0.4426)
China	19	0.6604 (0.4468; 0.9762)	53.8%	
Other countries	6	0.8317 (0.5355; 1.2919)	53.2%	
Study design				1.36 (0.244)
Retrospective study	23	0.6876 (0.5016; 0.9425)	52.8%	
Prospective study	2	1.1321 (0.5203; 2.4635)	44.2%	
Diagnostic standards				5.06 (0.02445)
Reported	14	0.5138 (0.331; 0.7977)	44.4%	
Not reported	11	0.9771 (0.6911; 1.3814)	46.1%	
FC levels Ulcerative colitis VS. Crohn's disease (MD)	24	-10.6616 (-66.3126; 44.9894)	75.20%	

Geographical location				0.12 (0.729)
China	20	-7.6686 (-70.6125; 55.2753)	98.1%	
Other countries	4	6.7165 (-44.8614; 58.2944)	43.2%	
Study design				0.37 (0.5404)
Retrospective study	21	-2.0757 (-61.5789; 57.4276)	91.1%	
Prospective study	3	-56.2667 (-219.2525; 106.7191)	98.5%	
Diagnostic standards				0.66 (0.4155)
Reported	19	-17.556 (-83.9725; 48.8606)	98.2%	
Not reported	5	17.176 (-33.604; 67.9561)	0%	
ESR levels Ulcerative colitis VS. Crohn’s disease (MD)	40	-2.8644 (-4.9876; -0.7413)	75.80%	
Geographical location				0.06 (0.8142)
China	30	-2.6258 (-4.4238; -0.8279)	72.9%	
Other countries	10	-3.6832 (-12.3172; 4.9508)	83.1%	
Study design				0.16 (0.6909)
Retrospective study	33	-3.1378 (-4.8824; -1.3932)	69.2%	
Prospective study	7	-0.8518 (-11.9831; 10.2796)	87.9%	
Diagnostic standards				0.23 (0.6347)
Reported	28	-2.2745 (-4.1317; -0.4173)	72.6%	
Not reported	12	-3.9744 (-10.7366; 2.7878)	80.2%	
CRP levels Ulcerative colitis VS. Crohn’s disease (MD)	36	-3.7779 (-6.0523; -1.5034)	93.00%	
Geographical location				0.08 (0.7799)
China	31	-3.8115 (-6.16; -1.463)	93.6%	
Other countries	5	-5.3041 (-15.5044; 4.8962)	86.8%	
Study design				0.09 (0.7664)
Retrospective study	31	-4.2177 (-6.5468; -1.8887)	92.9%	
Prospective study	5	-2.716 (-12.3453; 6.9132)	81.5%	
Diagnostic standards				0.07 (0.7914)
Reported	28	-3.6772 (-6.2351; -1.1194)	94.2%	
Not reported	8	-4.513 (-10.1531; 1.1271)	80.6%	

CI, Confidence interval; OR, Odds ratio; MD, Mean difference; ESR, Erythrocyte sedimentation rate; CRP, C-reactive protein; p-ANCA, Perinuclear anti-neutrophil cytoplasmic antibodies; FC, Fecal calprotectin.

Supplementary Table 6 Subgroup analyses of laboratory biomarkers in active ulcerative colitis versus clinical remission and healthy controls

	No. of data points	MD (95% CI)	I ²	Between groups’ Q value (P value)
FC levels for Active ulcerative colitis vs. Healthy controls	11	486.9438 (371.3093; 602.5783)	99.70%	
Diagnostic standards				5.85 (0.01561)
Reported	5	358.0644 (212.2245; 503.9043)	99.3%	
Not reported	6	595.0324 (470.0173; 720.0475)	99.4%	
FC levels for Active ulcerative colitis vs. Ulcerative colitis in remission	24	387.0419 (292.5458; 481.5380)	99.90%	
Study design				1.88 (0.1698)
Retrospective study	23	382.5756 (284.5591; 480.5921)	1%	
Prospective study	1	498.5 (365.1296; 631.8704)	NA%	
Diagnostic standards				2.57 (0.109)

Reported	16	331.8273 (224.1829; 439.4718)	99.6%	
Not reported	8	495.3681 (326.8145; 663.9216)	100%	
ESR levels for Active ulcerative colitis vs. Healthy controls	24	17.3976 (13.4156; 21.3795)	99.50%	
Geographical location				5.22 (0.02236)
China	22	16.8004 (12.5828; 21.0179)	99.6%	
Other countries	2	24.836 (19.3814; 30.2905)	0%	
Study design				9.06 (0.002617)
Retrospective study	23	17.7129 (13.5968; 21.829)	1%	
Prospective study	1	10.4 (8.0039; 12.7961)	NA%	
Diagnostic standards				1.28 (0.2571)
Reported	17	18.6701 (13.6954; 23.6448)	99.7%	
Not reported	7	14.1212 (8.0268; 20.2157)	97.7%	
ESR levels for Active ulcerative colitis vs. Ulcerative colitis in remission	42	14.3271 (11.9291; 16.7250)	98.70%	
Geographical location				6.86 (0.008816)
China	39	13.5121 (11.2205; 15.8036)	98.7%	
Other countries	3	26.3132 (17.0119; 35.6145)	82.4%	
Study design				2.44 (0.118)
Retrospective study	37	13.1074 (11.0798; 15.1351)	98.7%	
Prospective study	5	22.6869 (10.8495; 34.5243)	98.3%	
Diagnostic standards				5.25 (0.02197)
Reported	33	15.2922 (12.5016; 18.0828)	98.9%	
Not reported	9	10.3133 (7.0948; 13.5317)	87.9%	
CRP levels for Active ulcerative colitis vs. Healthy controls	38	16.8091 (12.6667; 20.9516)	99.90%	
Geographical location				56.41 (< 0.0001)
China	37	17.2367 (13.067; 21.4064)	1%	
Other countries	1	1.1 (0.5114; 1.6886)	NA%	
Study design				0.02 (0.8794)
Retrospective study	34	16.7038 (12.2654; 21.1422)	99.9%	
Prospective study	4	17.7724 (4.7059; 30.839)	99.7%	
Diagnostic standards				0.07 (0.7946)
Reported	31	17.1034 (12.695; 21.5117)	99.9%	
Not reported	7	15.4281 (3.6131; 27.2431)	99.7%	
CRP levels for Active ulcerative colitis vs. Ulcerative colitis in remission	67	12.9426 (10.4756; 15.4097)	99.40%	
Geographical location				96.79 (< 0.0001)
China	66	13.422 (10.9804; 15.8636)	1%	
Other countries	1	0.6 (-0.1506; 1.3506)	NA%	
Study design				0.04 (0.84)
Retrospective study	61	13.3086 (10.7197; 15.8974)	99.4%	
Prospective study	6	12.4778 (4.8387; 20.1169)	98.8%	
Diagnostic standards				0.09 (0.76)
Reported	54	13.4016 (10.8556; 15.9477)	99.3%	
Not reported	13	12.2578 (5.3734; 19.1422)	99.3%	

CI, Confidence interval; MD, Mean difference; ESR, Erythrocyte sedimentation rate; CRP, C-reactive protein; FC, Fecal calprotectin.

Supplementary Table 7 Meta-regression analyses of clinical features and laboratory biomarker in ulcerative colitis versus controls

	Estimate (95% CI)	S.E.	Z	P	I ²	R ² , % (Q _M P value)	Q _E P value
Diarrhea for Ulcerative colitis VS. Crohn’s disease (OR)					89.44%	4.5 (0.07998)	< 0.0001
Geographical location	1.2649 (0.2537; 2.2762)	0.516	2.4516	0.01422			
Study design	1.2085 (-0.2939; 2.7110)	0.7666	1.5765	0.1149			
Diagnostic standards	-0.3843 (-1.1837; 0.4152)	0.4079	-0.942	0.3462			
Abdominal pain for Ulcerative colitis VS. Crohn’s disease (OR)					84.30%	0 (0.7389)	< 0.0001
Geographical location	0.3141 (-0.4624; 1.0906)	0.3962	0.7929	0.4279			
Study design	0.5692 (-0.5037; 1.6421)	0.5474	1.0398	0.2984			
Diagnostic standards	-0.1496 (-0.7836; 0.4845)	0.3235	-0.4623	0.6438			
Hematochezia for Ulcerative colitis VS. Crohn’s disease (OR)					92.58%	0 (0.7199)	< 0.0001
Geographical location	-0.7809 (-2.1067; 0.5450)	0.6765	-1.1544	0.2484			
Study design	-0.5005 (-2.2928; 1.2919)	0.9145	-0.5473	0.5842			
Diagnostic standards	0.3630 (-0.7682; 1.4943)	0.5772	0.629	0.5294			
Mucous stools for Ulcerative colitis VS. Crohn’s disease (OR)					79.94%	0 (0.5731)	< 0.0001
Geographical location	-0.2175 (-2.8545; 2.4195)	1.3454	-0.1617	0.8716			
Study design	-0.9669 (-3.3905; 1.4568)	1.2366	-0.7819	0.4343			
Diagnostic standards	0.0036 (-1.8233; 1.8305)	0.9321	0.0039	0.9969			
Tenesmus for Ulcerative colitis VS. Crohn’s disease (OR)					53.65%	0 (0.4411)	< 0.0001
Geographical location	0.3155 (-1.0403; 1.6713)	0.6917	0.4561	0.6483			
Study design	-0.7025 (-2.4095; 1.0045)	0.8709	-0.8066	0.4199			
Diagnostic standards	-0.1825 (-0.9289; 0.5639)	0.3808	-0.4792	0.6318			
Upper gastrointestinal symptoms for Ulcerative colitis VS. Crohn’s disease (OR)					65.99%	0 (0.9631)	< 0.0001
Geographical location	0.2162 (-1.3421; 1.7745)	0.7951	0.2719	0.7857			
Study design	0.5256 (-1.5868; 2.6380)	1.0778	0.4876	0.6258			
Diagnostic standards	-0.1344 (-1.6931; 1.4243)	0.7953	-0.169	0.8658			
Anemia for Ulcerative colitis VS. Crohn’s disease (OR)					55.78%	50.5 (0.001224)	< 0.0001
Geographical location	-0.7203 (-1.1709; -0.2696)	0.2299	-3.1324	0.001734			
Study design	-0.0471 (-0.5196; 0.4255)	0.2411	-0.1952	0.8452			
Diagnostic standards	0.1734 (-0.2553; 0.6021)	0.2187	0.7929	0.4279			
Fatigue for Ulcerative colitis VS. Crohn’s disease (OR)					63.97%	23.08 (0.3012)	0.003677
Geographical location	0.6261 (-0.3374; 1.5897)	0.4916	1.2737	0.2028			
Study design	0.2857 (-1.4547; 2.0261)	0.888	0.3217	0.7477			
Diagnostic standards	0.7654 (-0.3314; 1.8623)	0.5596	1.3678	0.1714			
Fever for Ulcerative colitis VS. Crohn’s disease (OR)					45.29%	22.33 (0.008876)	< 0.0001
Geographical location	0.9835 (0.2900; 1.6769)	0.3538	2.7797	0.00544			
Study design	-0.5979 (-1.6770; 0.4812)	0.5506	-1.086	0.2775			
Diagnostic standards	0.0429 (-0.3991; 0.4850)	0.2255	0.1903	0.8491			
Weight loss for Ulcerative colitis VS. Crohn’s disease (OR)					63.17%	0 (0.5991)	< 0.0001
Geographical location	0.1266 (-0.5810; 0.8342)	0.361	0.3506	0.7259			
Study design	-0.2216 (-1.3067; 0.8634)	0.5536	-0.4003	0.6889			

Diagnostic standards	0.1824 (-0.3738; 0.7385)	0.2838	0.6427	0.5204			
Overall extraintestinal manifestations for Ulcerative colitis VS. Crohn’s disease (OR)					74.61%	4.28 (0.1317)	< 0.0001
Geographical location	-0.5713 (-1.3022; 0.1596)	0.3729	-1.532	0.1255			
Study design	0.4429 (-0.5178; 1.4035)	0.4902	0.9035	0.3663			
Diagnostic standards	0.0522 (-0.6919; 0.7963)	0.3796	0.1375	0.8906			
Arthritis for Ulcerative colitis VS. Crohn’s disease (OR)					84.46%	0 (0.8679)	< 0.0001
Geographical location	0.2268 (-0.4145; 0.8680)	0.3272	0.6931	0.4882			
Study design	-0.1506 (-0.8068; 0.5056)	0.3348	-0.4499	0.6528			
Diagnostic standards	-0.2151 (-0.8542; 0.4240)	0.3261	-0.6597	0.5095			
Oral lesions for Ulcerative colitis VS. Crohn’s disease (OR)					61.78%	3.35 (0.2888)	< 0.0001
Geographical location	-0.1564 (-1.0099; 0.6971)	0.4355	-0.3591	0.7195			
Study design	0.3502 (-1.1667; 1.8670)	0.7739	0.4525	0.6509			
Diagnostic standards	-0.5589 (-1.4058; 0.2880)	0.4321	-1.2935	0.1958			
Dermatological manifestations for Ulcerative colitis VS. Crohn’s disease (OR)					50.07%	0 (0.7781)	< 0.0001
Geographical location	0.0548 (-0.5697; 0.6793)	0.3186	0.172	0.8635			
Study design	-0.1241 (-1.1783; 0.9302)	0.5379	-0.2306	0.8176			
Diagnostic standards	-0.2281 (-0.8409; 0.3847)	0.3127	-0.7294	0.4657			
Ocular involvement for Ulcerative colitis VS. Crohn’s disease (OR)					49.68%	10.95 (0.1484)	< 0.0001
Geographical location	-0.5365 (-1.3023; 0.2293)	0.3907	-1.373	0.1697			
Study design	0.9290 (-0.0834; 1.9414)	0.5166	1.7984	0.07211			
Diagnostic standards	0.3958 (-0.3174; 1.1091)	0.3639	1.0878	0.2767			
Hepatobiliary involvement for Ulcerative colitis VS. Crohn’s disease (OR)					79.81%	22.54 (0.01719)	< 0.0001
Geographical location	-1.4622 (-2.4926; -0.4317)	0.5258	-2.7811	0.005418			
Study design	-0.2115 (-1.5533; 1.1303)	0.6846	-0.309	0.7573			
Diagnostic standards	0.5847 (-0.4517; 1.6211)	0.5288	1.1058	0.2688			
FC positivity for Ulcerative colitis VS. Crohn’s disease (OR)					80.70%	0 (0.5492)	< 0.0001
Geographical location	-0.714 (-2.542; 1.114)	0.9327	-0.7656	0.4439			
Study design	-1.0503 (-2.9818; 0.8813)	0.9855	-1.0657	0.2866			
Diagnostic standards	-0.1666 (-1.7650; 1.4318)	0.8155	-0.2043	0.8381			
FC levels for Ulcerative colitis VS. Crohn’s disease (MD)					99.05%	0 (0.6198)	< 0.0001
Geographical location	138.4667 (-130.7754; 407.7087)	137.3709	1.008	0.3135			
Study design	-54.8867 (-218.4266; 108.6532)	83.4403	-0.6578	0.5107			
Diagnostic standards	-151.8634 (-412.4855; 108.7586)	132.9729	-1.1421	0.2534			
FC levels for Ulcerative colitis VS. Healthy controls (MD)					99.93%	3.22 (0.2151)	< 0.0001
Study design	-280.8371 (-739.4446; 177.7704)	233.9877	-1.2002	0.2301			
Diagnostic standards	-114.6719 (-316.4472; 87.1035)	102.9485	-1.1139	0.2653			
p-ANCA positivity for Ulcerative colitis VS. Crohn’s disease (OR)					55.42%	0 (0.9189)	< 0.0001
Geographical location	-0.3973 (-1.7425; 0.9479)	0.6863	-0.5789	0.5627			
Study design	0.1135 (-0.6647; 0.8917)	0.397	0.2859	0.775			
Diagnostic standards	0.3801 (-0.8840; 1.6443)	0.645	0.5894	0.5556			
ESR levels for Ulcerative colitis VS. Crohn’s disease (MD)					88.04%	0 (0.6151)	< 0.0001
Geographical location	0.8768 (-7.0423; 8.7959)	4.0404	0.217	0.8282			
Study design	4.1363 (-2.6326; 10.9051)	3.4535	1.1977	0.231			
Diagnostic standards	0.9096 (-5.5747; 7.3939)	3.3084	0.2749	0.7834			

ESR levels for Ulcerative colitis VS. Healthy controls (MD)					99.48%	8.62 (0.07228)	< 0.0001
Geographical location	-13.0217 (-28.3922; 2.3487)	7.8422	-1.6605	0.09682			
Study design	-8.0342 (-17.4758; 1.4073)	4.8172	-1.6678	0.09535			
Diagnostic standards	8.4627 (-0.2777; 17.2031)	4.4595	1.8977	0.05774			
CRP positivity for Ulcerative colitis VS. Crohn’s disease (OR)					38.63%	32.91 (0.06047)	0.02173
Geographical location	0.5705 (-0.2203; 1.3613)	0.4035	1.4141	0.1573			
Study design	0.4488 (-0.5200; 1.4176)	0.4943	0.908	0.3639			
Diagnostic standards	-0.8951 (-1.6009; -0.1892)	0.3601	-2.4853	0.01294			
CRP levels for Ulcerative colitis VS. Crohn’s disease (MD)					96.17%	0 (0.7157)	< 0.0001
Geographical location	-0.8806 (-11.3668; 9.6056)	5.3502	-0.1646	0.8693			
Study design	4.5388 (-3.3897; 12.4673)	4.0452	1.122	0.2619			
Diagnostic standards	3.0720 (-5.9946; 12.1387)	4.6259	0.6641	0.5066			
CRP levels for Ulcerative colitis VS. Healthy controls (MD)					99.91%	0 (0.581)	< 0.0001
Geographical location	5.6608 (-9.3898; 20.7113)	7.679	0.7372	0.461			
Study design	-3.2825 (-14.6731; 8.1081)	5.8117	-0.5648	0.5722			
Diagnostic standards	2.8510 (-5.0682; 10.7702)	4.0405	0.7056	0.4804			

CI, Confidence interval; OR, Odds ratio; MD, Mean difference; QM, The regression model heterogeneity, QE =The residual error heterogeneity, UC, Ulcerative Colitis; ESR, Erythrocyte sedimentation rate; CRP, C-reactive protein; p-ANCA, Perinuclear anti-neutrophil cytoplasmic antibodies; FC, Fecal calprotectin.

Supplementary Table 8 Meta-regression analysis of laboratory biomarkers in active ulcerative colitis versus clinical remission and healthy controls

	Estimate (95% CI)	S.E.	t	P	I ²	R ² , % (QM P value)	QE P value
FC levels for Active ulcerative colitis vs. Remission					99.86%	5.38 (0.202)	< 0.0001
Study design	176.6999 (-300.1738; 653.5737)	243.3074	0.7262	0.4677			
Diagnostic standards	-173.0331 (-369.9749; 23.9087)	100.4823	-1.722	0.08506			
ESR levels for Active Ulcerative colitis VS. Healthy controls					99.38%	3.4 (0.2856)	< 0.0001
Geographical location	-14.1499 (-31.3306; 3.0308)	8.7658	-1.6142	0.1065			
Study design	-0.2938 (-21.4504; 20.8628)	10.7944	-0.0272	0.9783			
Diagnostic standards	7.9689 (-2.5387; 18.4765)	5.3611	1.4864	0.1372			
ESR levels for Active ulcerative colitis vs. Remission					97.57%	32.58 (< 0.0001)	< 0.0001
Geographical location	-13.8089 (-22.7410; -4.8768)	4.5573	-3.0301	0.002445			
Study design	7.0903 (0.8924; 13.2882)	3.1623	2.2422	0.02495			
Diagnostic standards	6.6211 (1.5272; 11.7150)	2.599	2.5476	0.01085			
CRP levels for Active Ulcerative colitis VS. Healthy controls					99.89%	0 (0.6883)	< 0.0001
Geographical location	16.6957 (-11.3161; 44.7075)	14.292	1.1682	0.2427			
Study design	0.7160 (-13.2390; 14.6710)	7.12	0.1006	0.9199			
Diagnostic standards	-0.7397 (-12.4881; 11.0086)	5.9942	-0.1234	0.9018			
CRP levels for Active ulcerative colitis vs. Remission					99.72%	0 (0.6475)	< 0.0001
Geographical location	12.7985 (-7.8275; 33.4246)	10.5237	1.2162	0.2239			
Study design	-1.0433 (-9.5626; 7.4760)	4.3467	-0.24	0.8103			
Diagnostic standards	0.1599 (-6.2878; 6.6076)	3.2897	0.0486	0.9612			

CI, Confidence interval; QM, The regression model heterogeneity; QE =The residual error heterogeneity; UC, ulcerative colitis; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; FC, fecal calprotectin.

Supplementary Table 9 GRADE assessment of clinical features and laboratory biomarkers in ulcerative colitis versus controls

	No. of data points	Effect size (95% CI)	<i>I</i> ²	GRADE
Diarrhea (OR)				
UC compared to Crohn’s disease	90	2.8354 (2.1042; 3.8207)	91.90%	low ^{ef}
UC compared to Ischemic colitis	20	3.6189 (1.9834; 6.6029)	79.20%	very low ^{ace}
UC compared to Intestinal tuberculosis;	7	3.2938 (1.4310; 7.5817)	61.40%	very low ^{cef}
UC compared to Irritable bowel syndrome	1	0.8547 (0.2845; 2.5672)	Ne	very low ^{bf}
UC compared to Infectious enteritis	1	73.125 (12.0141; 445.0822)	Ne	moderate ^{eeef}
UC compared to Inflammatory bowel disease unclassified	8	0.7829 (0.3692; 1.6600)	65.50%	very low ^{bf}
UC compared to Unspecified diseases	8	3.7437 (1.5344; 9.1339)	75.30%	very low ^{cef}
Abdominal pain (OR)				
UC compared to Crohn’s disease	97	0.6813 (0.5385; 0.8620)	82.20%	very low ^c
UC compared to Ischemic colitis	20	0.7049 (0.3922; 1.2671)	68.80%	very low ^{abc}
UC compared to Intestinal tuberculosis;	7	0.3951 (0.2311; 0.6755)	20.20%	moderate ^c
UC compared to Irritable bowel syndrome	1	0.2553 (0.0657; 0.9921)	Ne	low ^{ef}
UC compared to Infectious enteritis	2	0.8325 (0.1465; 4.7294)	82.70%	very low ^{bcef}
UC compared to Inflammatory bowel disease unclassified	8	1.4172 (0.5101; 3.9370)	79.30%	very low ^{bc}
UC compared to Unspecified diseases	8	0.8051 (0.3394; 1.9100)	74.10%	very low ^{bc}
Abdominal distension (OR)				
UC compared to Crohn’s disease	24	0.6236 (0.4878; 0.7972)	44.00%	low
UC compared to Ischemic colitis	8	0.5393 (0.1809; 1.6077)	59.40%	very low ^{abc}
UC compared to Intestinal tuberculosis;	2	0.3423 (0.0903; 1.2975)	52.70%	very low ^{bcef}
UC compared to Irritable bowel syndrome	1	0.0981 (0.0377; 0.2553)	Ne	moderate ^{eeef}
UC compared to Inflammatory bowel disease unclassified	3	0.5682 (0.2499; 1.2918)	0.00%	very low ^{abf}
UC compared to Unspecified diseases	4	0.8627 (0.1881; 3.9578)	80.30%	very low ^{bcef}
Abdominal masses (OR)				
UC compared to Crohn’s disease	31	0.1156 (0.0567; 0.2359)	62.60%	moderate ^{ccc}
UC compared to Intestinal tuberculosis;	2	0.0877 (0.0148; 0.5177)	0.00%	moderate ^{eeef}
UC compared to Unspecified diseases	2	0.0204 (0.0025; 0.1695)	0.00%	low ^{aeef}
Constipation (OR)				
UC compared to Crohn’s disease	13	0.7023 (0.4373; 1.1278)	1.80%	very low ^b
UC compared to Ischemic colitis	1	0.0462 (0.0026; 0.8288)	Ne	low ^{aeef}
UC compared to Inflammatory bowel disease unclassified	2	1.6415 (0.3023; 8.9145)	0.00%	very low ^{bf}
UC compared to Unspecified diseases	1	1.0548 (0.5142; 2.1637)	Ne	very low ^{bf}
Hematochezia (OR)				
UC compared to Crohn’s disease	67	4.972 (3.2464; 7.6149)	86.00%	low ^{cc}
UC compared to Ischemic colitis	20	0.2188 (0.0928; 0.5157)	89.10%	very low ^{ace}
UC compared to Intestinal tuberculosis;	4	14.6073 (1.7111; 124.7033)	84.30%	low ^{cef}
UC compared to Irritable bowel syndrome	1	1.6536 (0.7376; 3.7070)	Ne	very low ^{bf}
UC compared to Infectious enteritis	1	15.9107 (7.8763; 32.1409)	Ne	moderate ^{eeef}
UC compared to Inflammatory bowel disease unclassified	7	1.3433 (0.3460; 5.2160)	62.90%	very low ^{bc}
UC compared to Unspecified diseases	5	10.0202 (1.9272; 52.0994)	84.50%	low ^{acee}
Mucous stools (OR)				

UC compared to Crohn’s disease	15	3.8432 (2.3049; 6.4084)	74.00%	low ^{ce}
UC compared to Ischemic colitis	3	16.0749 (2.9795; 86.7264)	0.00%	low ^{acef}
UC compared to Irritable bowel syndrome	1	0.2935 (0.1207; 0.7136)	Ne	low ^{ef}
UC compared to Infectious enteritis	1	1.5467 (0.8513; 2.8101)	Ne	very low ^{bf}
UC compared to Inflammatory bowel disease unclassified	2	0.2084 (0.0033; 13.0778)	79.00%	very low ^{bcef}
UC compared to Unspecified diseases	1	5.3478 (2.1506; 13.2983)	Ne	moderate ^{eeef}
Bloody mucopurulent stools (OR)				
UC compared to Crohn’s disease	32	13.3297 (8.2855; 21.4449)	77.20%	low ^{ceef}
UC compared to Ischemic colitis	14	20.6811 (10.9195; 39.1691)	29.10%	low ^{acef}
UC compared to Intestinal tuberculosis;	2	43.1424 (5.7461; 323.9189)	0.00%	moderate ^{eeef}
UC compared to Inflammatory bowel disease unclassified	3	0.6677 (0.1310; 3.4033)	82.90%	very low ^{bef}
UC compared to Unspecified diseases	2	6.1153 (0.3181; 117.5773)	72.50%	very low ^{bceef}
Tenesmus (OR)				
UC compared to Crohn’s disease	35	3.7201 (2.7546; 5.0238)	54.30%	very low ^{ceef}
UC compared to Ischemic colitis	10	11.5292 (4.4590; 29.8098)	13.00%	low ^{acef}
UC compared to Intestinal tuberculosis;	1	6.1268 (0.9247; 40.5953)	Ne	low ^{bcef}
UC compared to Irritable bowel syndrome	1	0.1722 (0.0732; 0.4049)	Ne	moderate ^{eeef}
UC compared to Infectious enteritis	1	1.6101 (0.9868; 2.6270)	Ne	very low ^{bf}
UC compared to Inflammatory bowel disease unclassified	2	0.8719 (0.4974; 1.5284)	0.00%	very low ^{bf}
UC compared to Unspecified diseases	1	1.5726 (0.6142; 4.0266)	Ne	very low ^{bf}
Perianal fistulae (OR)				
UC compared to Crohn’s disease	16	0.0769 (0.438; 0.1350)	25.20%	high ^{ee}
Perianal abscesses (OR)				
UC compared to Crohn’s disease	22	0.1328 (0.0555; 0.3177)	69.70%	low ^{ceef}
UC compared to Inflammatory bowel disease unclassified	1	0.36 (0.0826; 1.5684)	Ne	very low ^{bef}
Upper gastrointestinal symptoms (OR)				
UC compared to Crohn’s disease	20	0.5823 (0.3765; 0.9004)	66.80%	very low ^c
UC compared to Ischemic colitis	7	0.5417 (0.2933; 1.0007)	0.00%	very low ^{ab}
UC compared to Infectious enteritis	1	0.0344 (0.0149; 0.0791)	Ne	moderate ^{eeef}
UC compared to Inflammatory bowel disease unclassified	2	0.3599 (0.1611; 0.8042)	0.00%	low ^{ef}
UC compared to Unspecified diseases	2	0.6508 (0.3637; 1.1643)	0.00%	very low ^{bf}
Overall extraintestinal manifestations (OR)				
UC compared to Crohn’s disease	37	0.4676 (0.3596; 0.6081)	90.00%	very low ^{ceef}
UC compared to Ischemic colitis	1	22.8806 (1.2901; 405.7843)	Ne	moderate ^{eeef}
UC compared to Intestinal tuberculosis;	1	2.9765 (1.9716; 4.4936)	Ne	low ^{ef}
Arthritis (OR)				
UC compared to Crohn’s disease	83	0.6018 (0.5059; 0.7159)	86.70%	very low ^{ef}
UC compared to Ischemic colitis	3	1.0689 (0.1786; 6.3983)	0.00%	very low ^{bf}
UC compared to Intestinal tuberculosis;	2	1.9731 (0.3509; 11.0959)	44.30%	very low ^{bf}
UC compared to Inflammatory bowel disease unclassified	5	0.552 (0.2304; 1.3225)	67.10%	very low ^{bef}
UC compared to Unspecified diseases	2	0.4221 (0.0378; 4.7080)	86.50%	very low ^{bceef}
UC compared to Healthy controls	5	2.7051 (1.6184; 4.5214)	96.80%	very low ^{ceef}
Oral lesions (OR)				
UC compared to Crohn’s disease	51	0.3176 (0.2285; 0.4414)	61.80%	low ^{ce}

UC compared to Ischemic colitis	2	2.1854 (0.0611; 78.1549)	63.10%	very low ^{bcef}
UC compared to Intestinal tuberculosis;	2	0.3614 (0.0125; 10.4663)	80.90%	very low ^{bcef}
UC compared to Inflammatory bowel disease unclassified	5	0.5973 (0.2640; 1.3518)	15.20%	very low ^b
UC compared to Unspecified diseases	1	0.0029 (0.0003; 0.0243)	Ne	moderate ^{cef}
UC compared to Healthy controls	1	15.7109 (0.8862; 278.5145)	Ne	low ^{beef}
Dermatological manifestations (OR)				
UC compared to Crohn’s disease	72	0.5394 (0.4539; 0.6411)	56.40%	very low ^{cf}
UC compared to Intestinal tuberculosis;	1	2.4982 (0.3267; 19.1032)	Ne	very low ^{bef}
UC compared to Inflammatory bowel disease unclassified	3	0.1441 (0.0783; 0.2652)	63.80%	low ^{ceef}
UC compared to Unspecified diseases	1	0.0089 (0.0005; 0.1678)	Ne	moderate ^{cef}
UC compared to Healthy controls	5	1.9999 (1.4759; 2.7101)	61.40%	very low ^{cf}
Ocular involvement (OR)				
UC compared to Crohn’s disease	45	0.6127 (0.4712; 0.7968)	57.90%	very low ^{cf}
UC compared to Ischemic colitis	1	2.5765 (0.1018; 65.1991)	Ne	very low ^{bef}
UC compared to Intestinal tuberculosis;	1	2.333 (0.5494; 9.9066)	Ne	very low ^{bef}
UC compared to Inflammatory bowel disease unclassified	2	1.758 (0.2898; 10.6648)	0.00%	very low ^{bf}
UC compared to Healthy controls	1	2.3863 (1.9858; 2.8676)	Ne	low ^{cf}
Hepatobiliary involvement (OR)				
UC compared to Crohn’s disease	44	1.2127 (0.8564; 1.7171)	82.20%	very low ^{be}
UC compared to Intestinal tuberculosis;	1	1.961 (0.1080; 35.6005)	Ne	very low ^{bf}
UC compared to Inflammatory bowel disease unclassified	2	1.5412 (0.8790; 2.7021)	0.00%	very low ^{bf}
UC compared to Unspecified diseases	1	1.5086 (0.1948; 11.6805)	Ne	very low ^{bf}
UC compared to Healthy controls	3	5.2312 (0.6907; 39.6177)	98.60%	very low ^{bcef}
Anemia (OR)				
UC compared to Crohn’s disease	45	0.5845 (0.4900; 0.6973)	69.80%	very low ^c
UC compared to Intestinal tuberculosis;	1	0.24 (0.0683; 0.8433)	Ne	very low ^{aef}
UC compared to Inflammatory bowel disease unclassified	4	1.3163 (0.8129; 2.1316)	35.30%	very low ^{abf}
UC compared to Unspecified diseases	2	0.6 (0.2548; 1.4129)	0.00%	very low ^{bf}
Fatigue (OR)				
UC compared to Crohn’s disease	12	0.8994 (0.5129; 1.5773)	78.80%	very low ^{be}
UC compared to Ischemic colitis	1	0.5496 (0.0255; 11.8444)	Ne	very low ^{bf}
UC compared to Intestinal tuberculosis;	2	0.34 (0.1144; 1.0105)	0.00%	very low ^{bef}
UC compared to Inflammatory bowel disease unclassified	2	0.5497 (0.2986; 1.0119)	0.00%	very low ^{bf}
UC compared to Unspecified diseases	2	0.7448 (0.4435; 1.2509)	0.00%	very low ^{bf}
Fever (OR)				
UC compared to Crohn’s disease	67	0.6065 (0.5041; 0.7297)	63.90%	very low ^{cf}
UC compared to Ischemic colitis	11	0.7294 (0.4197; 1.2676)	22.70%	very low ^{abf}
UC compared to Intestinal tuberculosis;	7	0.2282 (0.0852; 0.6110)	73.00%	very low ^{ceef}
UC compared to Infectious enteritis	1	83.8148 (4.6836; 1499.8891)	Ne	moderate ^{cef}
UC compared to Inflammatory bowel disease unclassified	6	1.0947 (0.6892; 1.7388)	0.00%	very low ^{bf}
UC compared to Unspecified diseases	5	0.9187 (0.2980; 2.8329)	57.40%	very low ^{abef}
Weight loss (OR)				
UC compared to Crohn’s disease	57	0.4922 (0.4076; 0.5943)	71.40%	low ^{ce}
UC compared to Ischemic colitis	1	8 (3.0025; 21.3153)	Ne	moderate ^{cef}

UC compared to Intestinal tuberculosis;	3	0.3211 (0.0706; 1.4613)	69.40%	very low ^{bcef}
UC compared to Inflammatory bowel disease unclassified	5	1.4825 (0.8605; 2.5540)	0.00%	very low ^b
UC compared to Unspecified diseases	4	1.0331 (0.4837; 2.2067)	0.00%	very low ^{bf}
FC positivity(OR)	21			
UC compared to Crohn’s disease	10	0.8029 (0.3844; 1.6770)	75.20%	very low ^{bc}
UC compared to Irritable bowel syndrome	1	10.0918 (3.5706; 28.5235)	Ne	moderate ^{ceef}
UC compared to Inflammatory bowel disease unclassified	2	0.5636 (0.0665; 4.7739)	0.00%	very low ^{bf}
UC compared to Unspecified diseases	4	12.7445 (6.7843; 23.9407)	0.00%	moderate ^{ceef}
UC compared to Healthy controls	4	285.5777 (68.7070; 1186.9908)	0.00%	moderate ^{ceef}
FC levels(MD)	58			
UC compared to Crohn’s disease	24	-10.6616 (-66.3126; 44.9894)	97.70%	very low ^{bef}
UC compared to Irritable bowel syndrome	5	696.306 (512.3838; 880.2281)	99.00%	low ^{ceef}
UC compared to Unspecified diseases	3	120.338 (-70.7491; 311.4251)	89.20%	very low ^{bceef}
UC compared to Healthy controls	26	426.2342 (335.0397; 517.4287)	100.00%	low ^{ceef}
p-ANCA positivity(OR)	109			
UC compared to Crohn’s disease	47	8.7037 (6.6969; 11.3119)	53.30%	low ^{ceef}
UC compared to Ischemic colitis	1	4 (0.9281; 17.2388)	Ne	very low ^{bef}
UC compared to Intestinal tuberculosis;	2	15.8809 (3.8349; 65.7653)	0.00%	moderate ^{ceef}
UC compared to Irritable bowel syndrome	1	23.5926 (1.2322; 451.7344)	Ne	moderate ^{ceef}
UC compared to Infectious enteritis	2	28.3675 (3.6668; 219.4573)	0.00%	moderate ^{ceef}
UC compared to Inflammatory bowel disease unclassified	3	26.5096 (7.3220; 95.9795)	38.90%	moderate ^{ceef}
UC compared to Unspecified diseases	25	21.7577 (14.9375; 31.6918)	39.90%	moderate ^{ceef}
UC compared to Healthy controls	28	41.5012 (25.1279; 68.5433)	34.20%	moderate ^{ceef}
p-ANCA levels (MD)	6			
UC compared to Crohn’s disease	2	27.7359 (14.6785; 40.7934)	80.00%	very low ^{cef}
UC compared to Unspecified diseases	2	28.8051 (17.2770; 40.3332)	74.90%	very low ^{cef}
UC compared to Healthy controls	2	35.2552 (9.7248; 60.7855)	95.10%	very low ^{cef}
ESR positivity(OR)	22			
UC compared to Crohn’s disease	16	0.5707 (0.4029; 0.8084)	29.40%	low
UC compared to Intestinal tuberculosis;	3	0.6025 (0.3372; 1.0764)	0.00%	very low ^{bf}
UC compared to Infectious enteritis	1	37.8889 (2.1467; 668.7448)	Ne	low ^{aeeef}
UC compared to Inflammatory bowel disease unclassified	1	3.6 (0.8636; 15.0076)	Ne	very low ^{bef}
UC compared to Unspecified diseases	1	0.9327 (0.4731; 1.8387)	Ne	very low ^{abf}
ESR levels (MD)	95			
UC compared to Crohn’s disease	40	-2.8644 (-4.9876; -0.7413)	75.80%	very low ^c
UC compared to Ischemic colitis	1	12.53 (0.4956; 24.5644)	Ne	very low ^f
UC compared to Irritable bowel syndrome	3	10.881 (5.3579; 16.4042)	98.90%	very low ^{cf}
UC compared to Infectious enteritis	1	6.4 (3.5673; 9.2327)	Ne	very low ^f
UC compared to Unspecified diseases	4	14.1143 (9.0235; 19.2051)	97.40%	very low ^{cef}
UC compared to Healthy controls	46	17.546 (14.2601; 20.8319)	99.50%	very low ^c
CRP positivity(OR)	36			
UC compared to Crohn’s disease	25	0.729 (0.5448; 0.9754)	51.70%	very low ^{cf}
UC compared to Intestinal tuberculosis;	4	1.0034 (0.5722; 1.7593)	0.00%	very low ^{abf}
UC compared to Irritable bowel syndrome	1	4.8125 (0.8807; 26.2985)	Ne	very low ^{bef}

UC compared to Infectious enteritis	1	22.4545 (4.3865; 114.9443)	Ne	moderate ^{cef}
UC compared to Inflammatory bowel disease unclassified	1	1.3077 (0.3115; 5.4896)	Ne	very low ^{bf}
UC compared to Unspecified diseases	2	1.0133 (0.5217; 1.9680)	0.00%	very low ^{bf}
UC compared to Healthy controls	2	34.2172 (4.5295; 258.4887)	0.00%	moderate ^{cef}
CRP levels (MD)	128			
UC compared to Crohn’s disease	36	-3.7779 (-6.0523; -1.5034)	93.00%	very low ^c
UC compared to Ischemic colitis	1	-23.23 (-26.4149; -20.0451)	Ne	very low ^f
UC compared to Irritable bowel syndrome	3	13.8121 (6.6713; 20.9528)	99.00%	very low ^{cf}
UC compared to Infectious enteritis	1	10.8 (8.7659; 12.8341)	Ne	very low ^f
UC compared to Inflammatory bowel disease unclassified	1	6.71 (5.9886; 7.4314)	Ne	very low ^f
UC compared to Unspecified diseases	5	5.16 (2.2605; 8.0596)	98.60%	very low ^c
UC compared to Healthy controls	81	15.126 (12.1893; 18.0627)	99.90%	low ^{ce}

Ne, There is only one type of disease in the control group, or only a single study was included, precluding the assessment of heterogeneity; *CI*, confidence interval; OR, odds ratio; MD, mean difference; UC, ulcerative colitis; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; p-ANCA, Perinuclear anti-neutrophil cytoplasmic antibodies; FC, Fecal calprotectin; GRADE, Grading of Recommendations, Assessment, Development, and Evaluation (GRADE).

a: Risk of bias: downgraded one level (>50% of included studies at high risk). b: Imprecision: downgraded one level (95% *CI* crosses 1). c: Inconsistency: downgraded one level for unexplained high heterogeneity (not downgraded if heterogeneity was adequately resolved). d: Indirectness: downgraded one level. e: Upgraded for large effect size. One level: OR > 2.0 or < 0.5; MD > 100 for FC, > 15 for CRP/ESR, or > 25 for p-ANCA. Two levels: OR > 5.0 or < 0.2; MD > 300 for FC, > 30 for CRP/ESR, or > 50 for p-ANCA. f: Publication bias: downgraded one level.

High certainty = very confident that the true effect lies close to that of the estimate of the effect

Moderate certainty = moderately confident that the true effect lies close to that of the estimate of the effect

Low certainty = limited confidence in the effect estimate, the true effect may be substantially different from the estimate of effect

Very Low certainty = very little confidence in the effect estimate, the true effect is likely to be substantially different from the estimate of effect

Supplementary Table 10 GRADE assessment of laboratory biomarkers in active ulcerative colitis versus clinical remission and healthy controls

	No. of data points	Effect size (95% <i>CI</i>)	<i>I</i> ²	GRADE
FC levels	35			
Active UC compared to Clinical remission	24	387.0419 (292.5458; 481.5380)	99.90%	very low ^{cef}
Active UC compared to Healthy controls	11	486.9438 (371.3093; 602.5783)	99.70%	low ^{ce}
ESR levels	66			
Active UC compared to Clinical remission	42	14.3271 (11.9291; 16.7250)	98.70%	very low ^{cf}
Active UC compared to Healthy controls	24	17.3976 (13.4156; 21.3795)	99.50%	very low ^{ce}
CRP levels	105			
Active UC compared to Clinical remission	68	12.9426 (10.4756; 15.4097)	99.40%	very low ^{cf}
Active UC compared to Healthy controls	38	16.8091 (12.6667; 20.9516)	99.90%	low ^{ce}

Ne, There is only one type of disease in the control group, or only a single study was included, precluding the assessment of heterogeneity; CI, Confidence interval; MD, Mean difference; UC, ulcerative colitis; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; p-ANCA, Perinuclear anti-neutrophil cytoplasmic antibodies; FC, fecal calprotectin; GRADE, Grading of Recommendations, Assessment, Development, and Evaluation (GRADE).

a: Risk of bias: downgraded one level (>50% of included studies at high risk). b: Imprecision: downgraded one level (95% *CI* crosses 1). c: Inconsistency: downgraded one level for unexplained high heterogeneity (not downgraded if heterogeneity was adequately resolved). d: Indirectness: downgraded one level. e: Upgraded for large effect size. One level: MD > 100 for FC, > 15 for CRP/ESR, or > 25 for p-ANCA. Two levels: OR > 5.0 or < 0.2; MD > 300 for FC, > 30 for CRP/ESR, or > 50 for p-ANCA. f: Publication bias: downgraded one level.

High certainty = very confident that the true effect lies close to that of the estimate of the effect

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Low certainty = limited confidence in the effect estimate, the true effect may be substantially different from the estimate of effect

Very Low certainty = very little confidence in the effect estimate, the true effect is likely to be substantially different from the estimate of effect