

**Supplementary Table 1 Characteristics of included studies**

Study	<i>n</i>	Con diti on	D esi gn	Treatme nt	Age (years)	Fem ales (%)	Sm okers (%)	Disease duration (years)	Family history of IBD (%)	% Periana l surgery	% Bowel surger y	% Per ian al les ion s	CRP (mg/dL )	% Resp onde rs	% Rem itter s
Bertani 2020	45	CD	PR OS P	Anti- TNF	30 (IQR 24, 45)	46.7	6.67	3.5 (IQR 1.8,9)	22.2				53% normal		71.1
Bertani 2022	66	CD	PR OS P	Anti- TNF	36 (IQR 25, 48)	39		3 (IQR 1,9)					1.25 (IQR 0.63, 2.18)		62.1
	68	CD	PR OS P	Vedolizu mab	48 (IQR 39, 64)	32		10 (IQR 6,21)					0.95 (IQR 0.6, 1.4)		61.8
Cao 2021	62	CD /U C	PR OS P	Inflixima b	35 (19- 47)	37.1	6.45	1 (0-3)	0	24.2	22.6	51. 6		85.5	
Cao 2022	122	CD /U C	PR OS P	Inflixima b	37 (27- 50)	39.3			1.64	18	14.8	39. 3			

Guo 2022	122	CD /U C	RE T	Anti- TNF	42 (18- 78)	51.6	18.9	9.8±9		22.1				63.9
Ezirike Ladipo 2021	69	CD /U C	RE T	Anti- TNF	14±3.4 (SD)	49.3								
Mateos 2021	22	CD	PR OS P	Inflixima b	46 (IQR 32.5, 52.8)	32	27			45	36			
Minar 2019	40	CD	PR OS P	Anti- TNF	13±4 (SD)	35		43 days (IQR 18, 240)			25	1.1 (IQR 0.42,2.2 )	51.4	34.3
Mohamed 2022	30	CD /U C	PR OS P		42±11 (SD)	43	37	1±0.37	77			74.9±7. 41 (SD)		
Nishioka 2021	33	CD /U C	RE T	Anti- TNF	35 (IQR 26.6, 48)	51.5		5.5 (IQR 3.5,8.4)			18			

	23	CD	PR	Ustekinu	34	34.8		5	(IQR		18
		/U	OS	mab	(IQR			3.5,	7.8)		
		C	P		27, 49)						
O'Connel	21	UC	RE	Inflixima	36						
l 2022			T	b	(21.2-						
					81.8)						
Verstockt	54	CD	PR	Anti-	38	37	17	6.3	(IQR	19	17
2019		/U	OS	TNF	(IQR			2.1,	17)		4.7
		C	P		30,52)						(IQR 1,
											18)
Verstockt	22	UC	PR	Inflixima							
2021			OS	b							
			P								
West	236	CD	PR	Inflixima							
2017		/U	OS	b							
		C	P	/golimu							
				mab							
Yokoyam	34	CD	RE	Anti-	43	38.2	17.6	4	(IQR		
a 2023		/U	T	TNF	(IQR			1.2,	15)		
		C			22, 62)						
Zhou	284	UC	R	PF-							
2019			CT	00547659							

CD: Crohn's disease; CRP: C-reactive protein; IBD: Inflammatory bowel disease; PROS: Prospective; RCT: Randomized controlled trial; RET: Retrospective; TNF: Tumor necrosis factor; UC: Ulcerative colitis.



Cao 2022	21.3	4.1	4.1	6.56	12.3	32.8	21.3	29.5	7.38	5-ASA (86%), CORT (41%), thiopurine s (28%), MTX (15%), thalidomi de (11%), adalimum ab (6%)
Guo 2022	30.5	12	54	2.5	28	70				
Ezirike Ladipo 2021										Immunomodul ators (32%), CORT (74%)
Mateos 2021	46	32	23				59	14	27	Immunomodul ators (81%), CORT (27%)
Minar 2019 Mohamed 2022	10	10	80				80	15	2.5	
Nishioka 2021	36	18	45	0	23	77	45	55	9	

Nishioka 2021	29	29	41	0	50	50	76	24	6	5-ASA (94%), CORT (27%), thiopurine (30%), Anti-TNF $\alpha$ (9%)
Oconnell2022										5-ASA (52%), MTX (5%)
Verstockt 2019	25	25	50	10	63	27	63	25	12	Anti-TNF (24%), vedolizumab (20%), ustekinumab (6%) CORT (30%), immunomodulators 18 (33%)
Verstockt 2021										
West 2017										5-ASA (36%), CORT (16%), thiopurines (29%), Infliximab/

							adalimumab (17%), NSAIDs (9%)
							5-ASA (85%), CORT (53%), thiopurine s (44%), Anti- TNF $\alpha$ (41%), tacrolimus (6%), tofacitinib (9%), Ustekinu mab (18%), vedolizum ab (21%)
Yokoyama 2023	30	70	4	8	88		

5-ASA: 5-amino salicylate; CD: Crohn's disease; CORT: Corticosteroid; MTX: Methotrexate; TNF: Tumor necrosis factor; UC: Ulcerative colitis.

**Supplementary Table 3 Quality assessment of the included study with New Castle-Ottawa Quality Assessment Scale**

Study	Representativeness of exposed cohort	Selection of non-exposed cohort	Ascertainment of exposure	Demonstration that outcome of interest was not present at start of study	Comparability of cohorts on the basis of the design or analysis	Assessment of outcome	Was follow-up long enough for outcomes to occur	Adequacy of follow-up completion of cohorts
Bertani 2020	*		*	*	*	*	*	*
Bertani 2022	*		*	*	*	*	*	*
Cao 2021	*	*	*		*	*	*	*
Cao 2022	*	*	*	*	*	*	*	*
Guo 2022	*		*	*	*	*	*	*
Ezirike								
Ladipo 2021	*	*	*	*		*	*	*
Mateos 2021	*		*	*			*	*
Minar 2019	*		*	*	*	*	*	*
Mohamed								
2022	*	*	*	*		*	*	*
Nishioka								
2021	*		*	*	*	*	*	*
O'Connell								
2022	*		*	*	*		*	*



**Supplementary Table 4 Oncostatin M levels in patients with respect to the response to therapy**

Study	n	Treatment	Sample	Response to therapy		Remission		Mucosal healing	
				Responders	None-responders	Remitters	None-remitters	Healing	No healing
Bertani 2020	45	Anti-TNF $\alpha$	Serum (baseline)	0 (IQR 0, 10)	26 (IQR 16, 191)	0 (IQR 0, 0)	175 (IQR 25, 203)	0 (IQR 0, 0)	89 (IQR 20, 199)
Bertani 2020	45	Anti-TNF $\alpha$	Serum (14 week)	0 (IQR 0, 0)	114 (IQR 0, 174)	0 (IQR 0, 0)	174 (IQR 121, 336)	0 (IQR 0, 0)	139 (IQR 5, 265)
Bertani 2022	66	Anti-TNF $\alpha$	Serum (pg/ml)			0 (IQR 0, 7)	93 (IQR 29, 203)	0 (IQR 0, 0)	86 (IQR 27, 195)
Bertani 2022	68	Anti-TNF $\alpha$	Serum (pg/ml)			0 (IQR 0, 75)	63 (IQR 0, 215)	0 (IQR 0, 110)	46 (IQR 0, 178)
Bertani 2022	68	Vedolizumab	Serum (pg/ml)						
Cao 2021	62	Infliximab	Fecal (pg/ml)	6 $\pm$ 1 (SD)	22 $\pm$ 20 (SD)	6 $\pm$ 3 (SD)	13.5 $\pm$ 5.5 (SD)	7 $\pm$ 6 (SD)	13 $\pm$ 11 (SD)
Cao 2022	122	Infliximab	Serum (pg/ml)	24.1 (IQR 23, 53)	287.3 (IQR 128, 438)			20 (IQR 10, 40)	210 (IQR 125, 301)
Guo 2022	122	Anti-TNF $\alpha$	Serum (pg/ml)	97.4 $\pm$ 169 (SD)	1140 $\pm$ 1122 (SD)				
Ezirike Ladipo 2021	69	Anti-TNF $\alpha$	mRNA expression						

Minar 2019	40	Anti-TNF $\alpha$	Serum (pg/ml)	86 (range 69-148)	166 (range 74-1766)	78 (range 68-199)	150 (range 74-444)
Mohamed 2022	30		Serum				
Nishioka 2021 RET	33	Anti-TNF $\alpha$	mRNA expression relative to GAPDH	-17 (IQR -19, -14)	-14 (IQR -15, -11)		
Nishioka 2021 RROSP	23	Anti-TNF $\alpha$	mRNA expression relative to GAPDH	-17 (IQR -18, -13)	-10 (IQR -15, -10)		
Verstockt 2019	54	Anti-TNF	mRNA expression normalized count			18 (IQR 5, 60)	120 (IQR 30, 135)
Verstockt 2021	22	Infliximab	Serum (OLINK proximity extension technology values)			4.4 (IQR 3.75, 5.1)	6 (IQR 5.1, 6.8)
West 2017	236	Infliximab/ Golimumab	mRNA log expression relative to control	2 0 $\pm$ 0.4 (SEM)	2 $\pm$ 0.2 (SEM)		
Yokoyama 2023	34	Anti-TNF $\alpha$	Relative expression	5 (range 0-12)	18 (range 10-65)		

GAPDH: Glyceraldehyde-3-phosphate dehydrogenase; OLINK: Olink Proteomics AB, Uppsala, Sweden; PROSP: Prospective; RET: Retrospective; TNF: Tumor necrosis factor.

**Supplementary Table 5 Correlation between oncostatin M and inflammatory/hematological markers**

<b>Study</b>	<b>Covariates</b>	<b>Treatment</b>	<b><i>r</i></b>	<b><i>P</i></b>
Cao 2021	OSM-Albumin	Infliximab	-0.258	0.001
Cao 2022		Infliximab	-0.514	<0.001
Mohamed 2022		Infliximab /adalimumab /steroids	0.293	0.116
Cao 2021	OSM-Bilirubin	Infliximab	-0.227	0.002
Mohamed 2022		Infliximab/adalimumab/steroids	0.581	0.107
Cao 2021	OSM-Erythrocyte	Infliximab	0.239	0.002
Cao 2022	sedimentation rate	Infliximab	0.436	<0.001
Mohamed 2022		Infliximab/adalimumab/steroids	-0.1	0.597
Cao 2021		Infliximab	-0.167	0.022
Cao 2022	OSM-Hemoglobin	Infliximab	-0.252	0.005
Mohamed 2022		Infliximab/adalimumab/steroids	0.073	0.7
Cao 2021	OSM-Leucocyte count	Infliximab	0.183	0.012
Cao 2022		Infliximab	0.549	<0.001
Mohamed 2022		Infliximab/adalimumab/steroids	0.087	0.646
Bertani 2022	OSM-Interleukin 21	Anti-TNF	0.31	0.01
Mateos 2021	OSM-Interleukin 22	Infliximab	0.67	
Verstockt 2021	OSM-Age	Infliximab	0.6733	<0.05