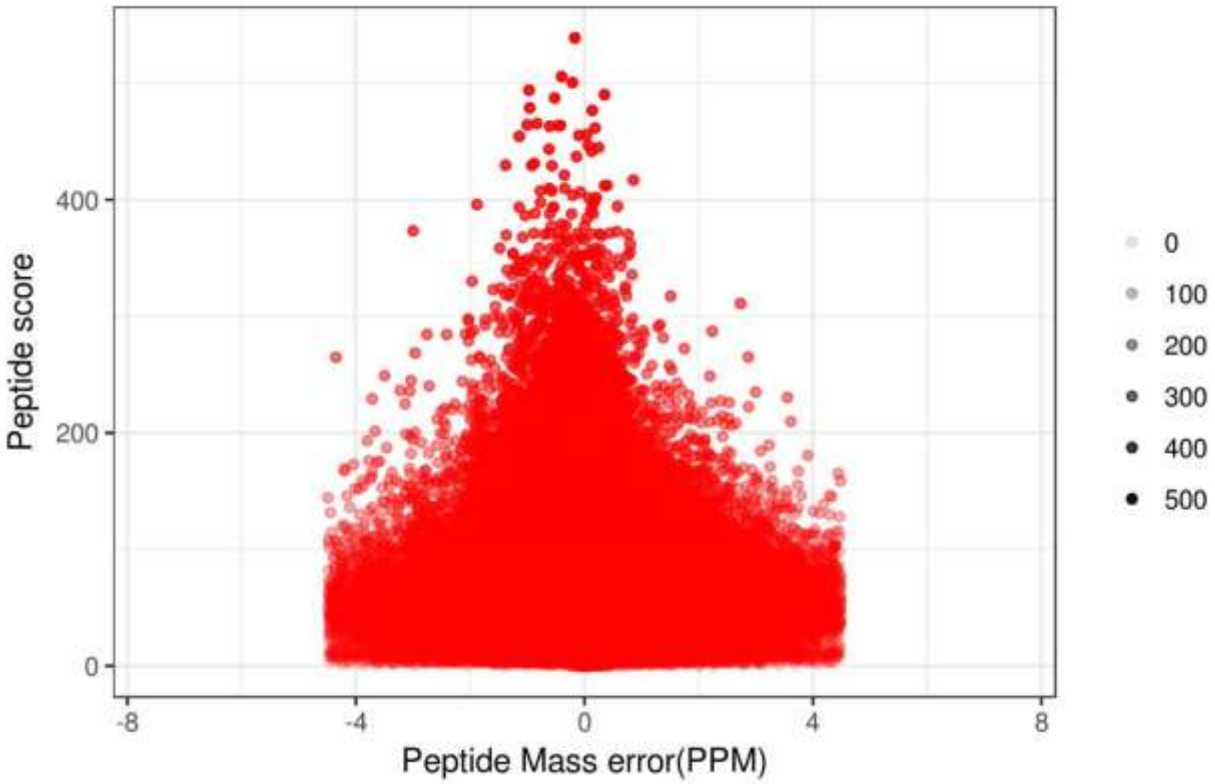
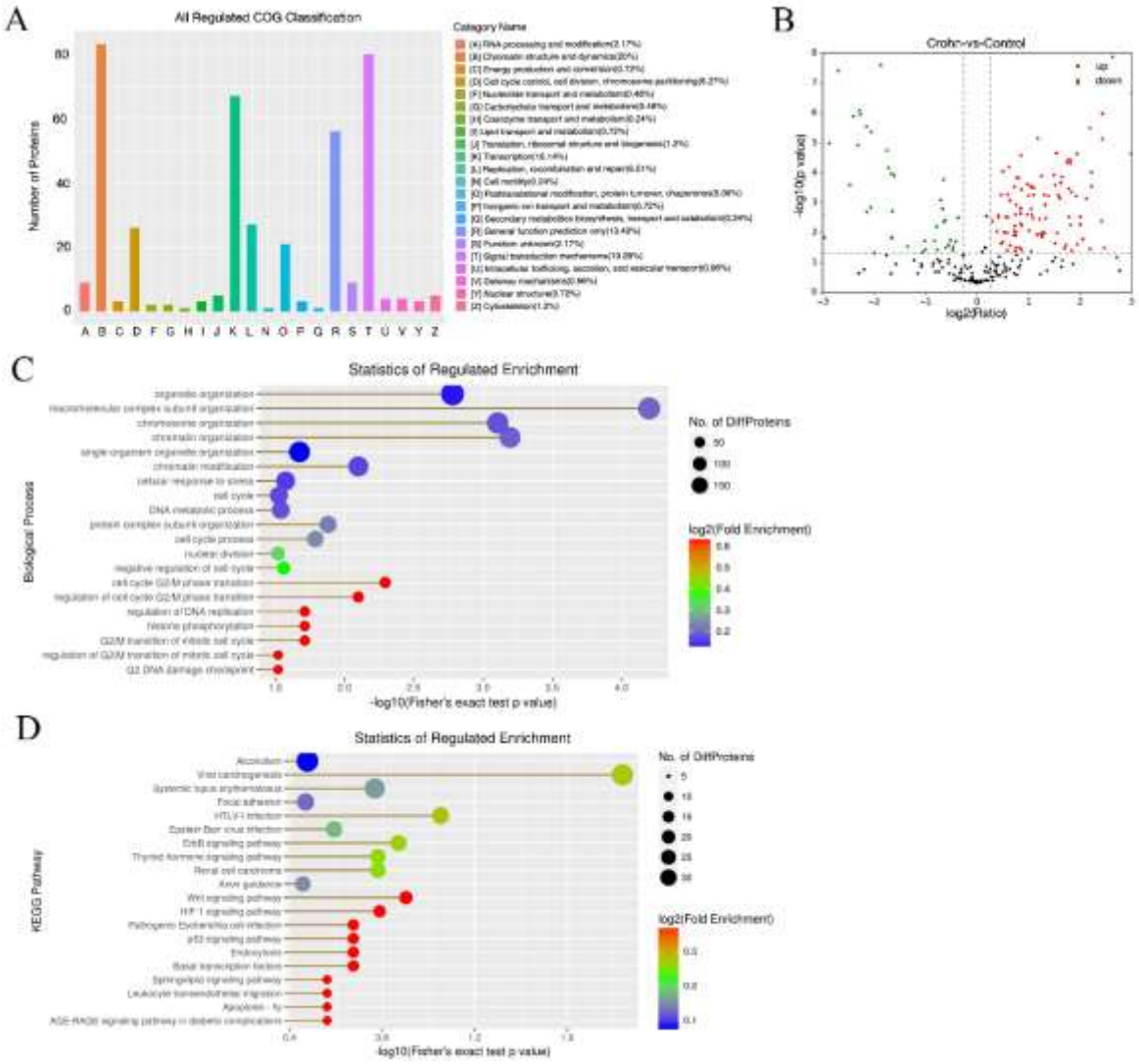
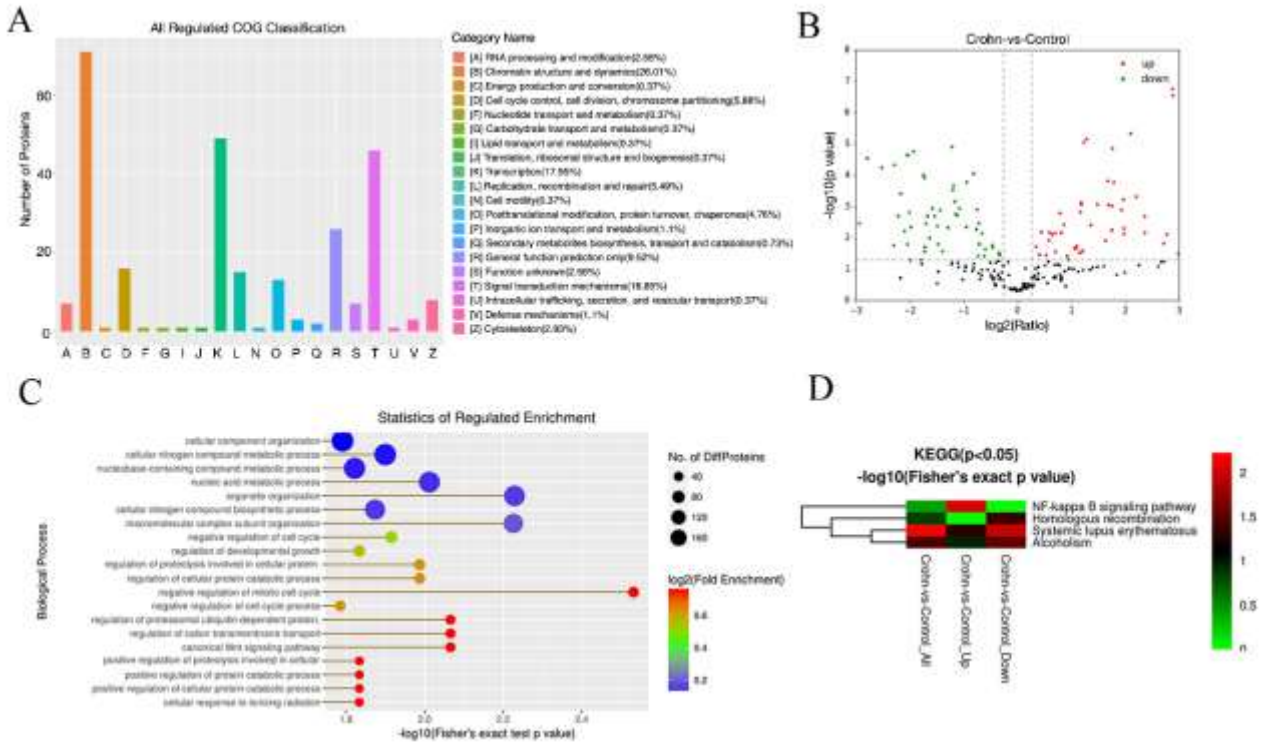


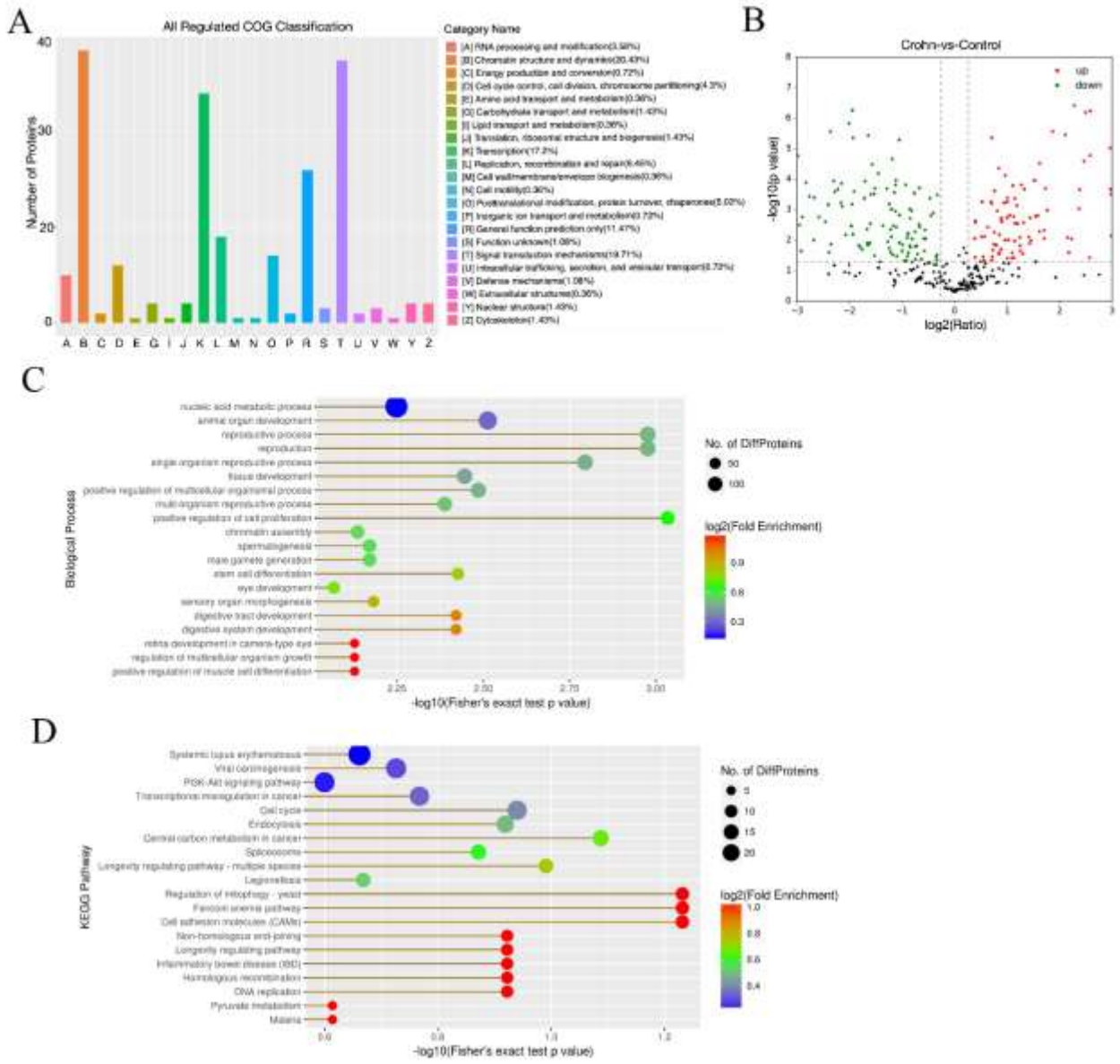

**Supplementary Figure 1 Quality control metrics of mass error distribution for tissue-specific acetylproteomics LC-MS/MS.**



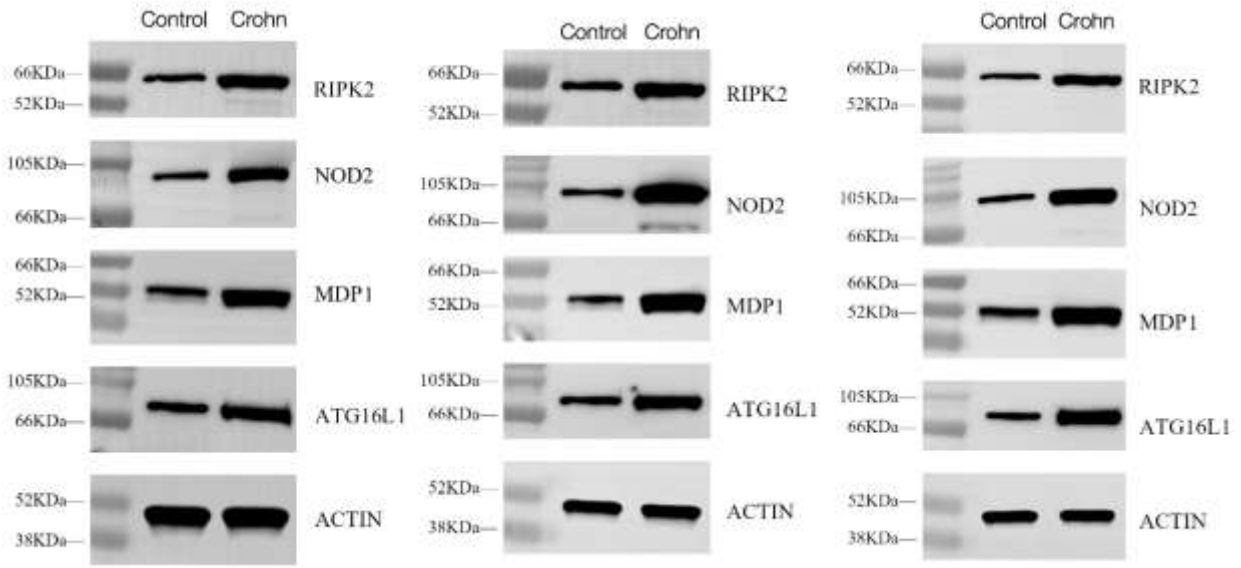

**Supplementary Figure 2 Integrated profiling of acetylated proteins in rat P-colon.** (A) COG classification of the P-colon acetylome. (B) Volcano plot of (DAPs) between Crohn and control P-colon (red: up-regulated, blue: down-regulated, fold change>1.2, p value<0.05). (C) Biological process enrichment of DAPs. (D) KEGG pathway enrichment of DAPs.



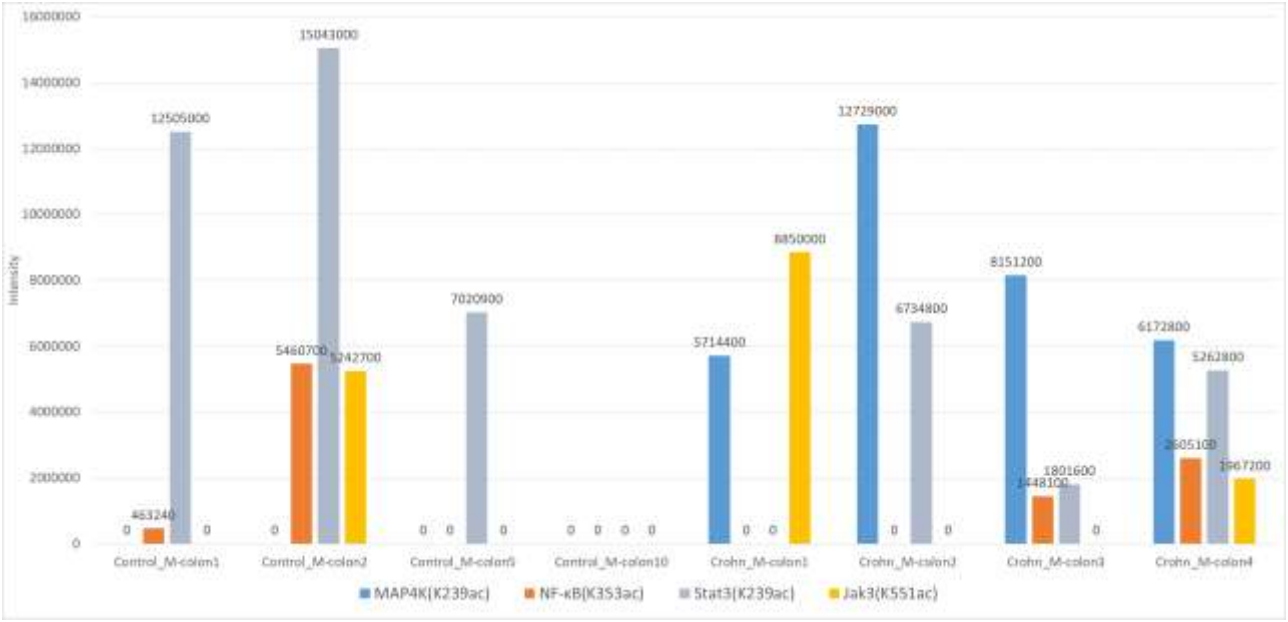

**Supplementary Figure 3 Integrated profiling of acetylated proteins in rat M-colon.** (A) COG classification of the colonic acetylome. (B) Volcano plot of DAPs in Crohn vs. control colon. (C) Biological process enrichment of DAPs. (D) KEGG-based hierarchical clustering.



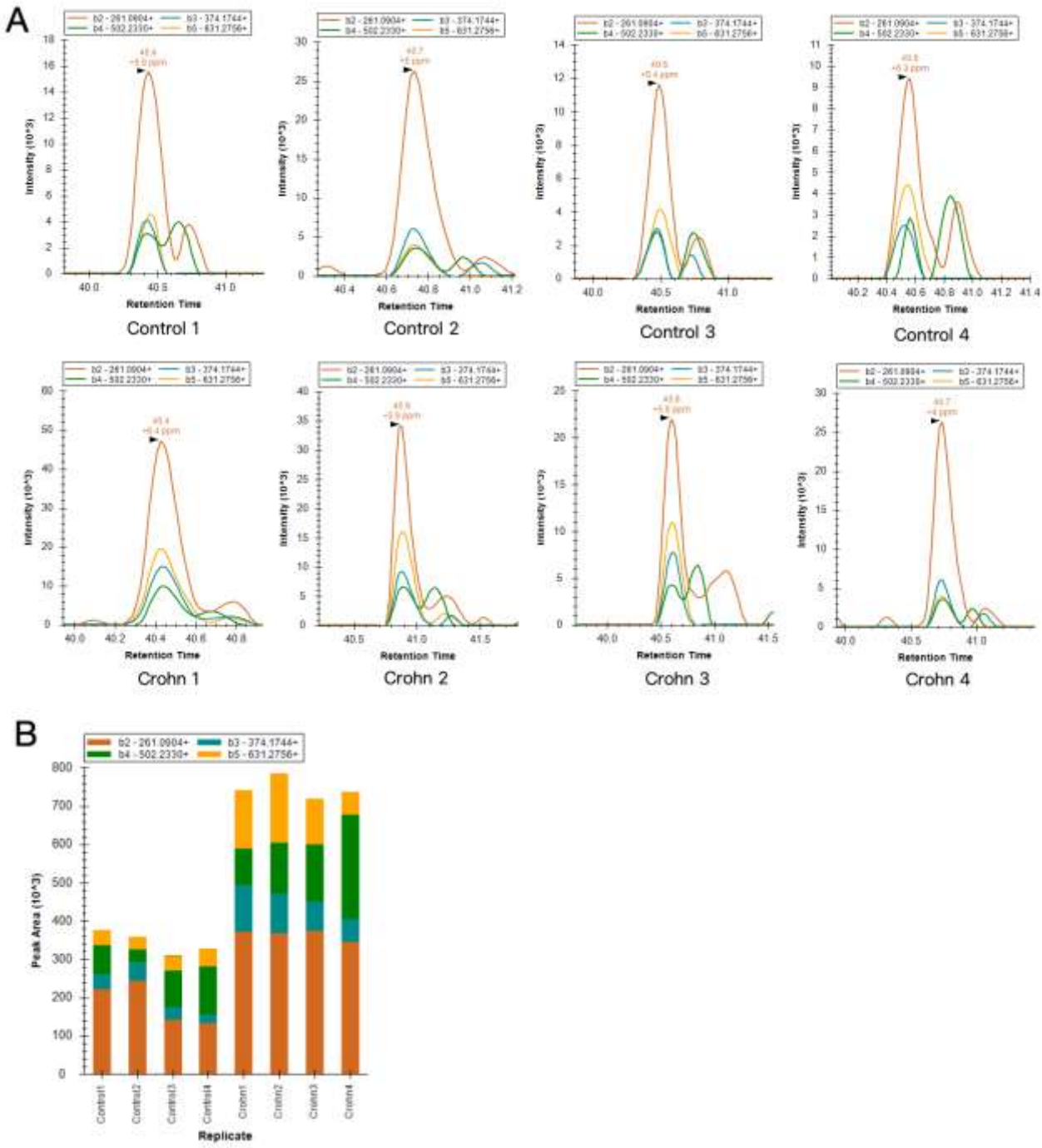

**Supplementary Figure 4 Integrated profiling of acetylated proteins in rat D-colon.** (A) COG classification of the D-colon acetylome. (B) Volcano plot of DAPs in Crohn vs. control D-colon. (C) Biological process enrichment of DAPs. (D) KEGG pathway enrichment of DAPs.




**Supplementary Figure 5 Representative western blot images of RIPK2, NOD2, MDP1 and ATG16L1 in the colon tissues of control group and Crohn group.**




**Supplementary Figure 6 Quantitative histograms of MAP4K(K239ac), NF-κB(K353ac), Stat3(K239ac) and Jak3(K551ac).**




**Supplementary Figure 7 Targeted PRM validation of SMRD2 K185ac acetylation in colonic tissues.** (A) Representative extracted ion chromatograms of fragment ions after collision-induced dissociation of the SMRD2 K185ac precursor peptide from control (n = 4) and TNBS-induced colitis (n = 4) groups. (B) Quantification of SMRD2 K185ac abundance.