

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: The PROTECT core 5296 genes and functional annotation enrichments analyses, together with gene set replication in the RISK, adult UC GSE590711 , and IEC UC cohorts2 .

File Name: Supplementary Data 2

Description: The 712 UC severity genes and functional annotation enrichments analyses including immune cell types.

File Name: Supplementary Data 3

Description: The 187 surface villiform changes associated genes and functional annotation enrichments analyses.

File Name: Supplementary Data 4

Description: The 115 corticosteroid response genes and 50 anti-TNF response genes with functional annotation enrichments analyses.

File Name: Supplementary Data 5

Description: Results of the statistical significance correlations between genes and gene signatures and taxa as established by hierarchical all-against-all association testing [HALLA: (<http://huttenhower.sph.harvard.edu/halla>)]