

Supplementary Material

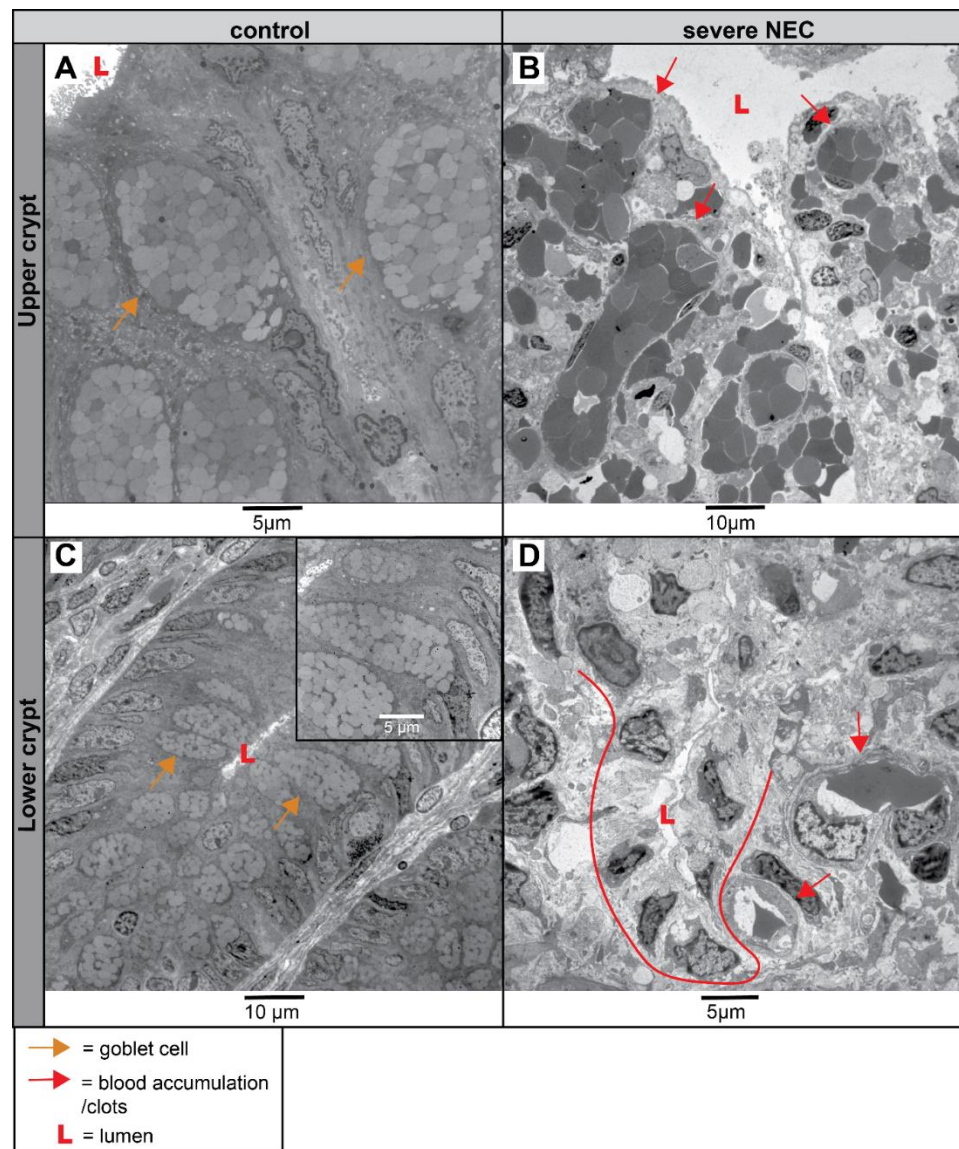
Supplementary Table S1 Antibodies used

Primary antibodies used:
polyclonal rabbit anti-mucin 2 (MUC2c3) kindly provided by Gunnar Hansson, University of Gothenburg, Gothenburg, Sweden
polyclonal rabbit anti-immature mucin 2 (PH 489) kindly provided by Gunnar Hansson, University of Gothenburg, Gothenburg, Sweden
polyclonal rabbit anti-SPDEF (ab197375, Abcam, Cambridge, United Kingdom)
monoclonal rabbit anti-BiP (C50B12 #3177 Cell Signaling Technology, Danvers, MA, USA)
monoclonal mouse anti-CHOP (9C8, MA1-250, Invitrogen, Carlsbad, CA, USA)
Secondary antibodies used:
biotin-conjugated polyclonal swine anti-rabbit (E0353, DakoCytomation, Glostrup, Denmark) (MUC2, iMUC2, SPDEF, BiP)
biotin-conjugated polyclonal rabbit anti-mouse (E0413, DakoCytomation, Glostrup, Denmark) (CHOP)

Supplementary Table S2 Sequences of primers used

Primer	Forward	Reverse
Housekeeping genes		
ovRPS15	5'-CGAGATGGTGGGCAGCAT-3'	5'-GCTTGATTTCACCTGGTTGA-3'
GAPDH	5'-ATGCCTCCTGCACCACCA-3'	5'-ATGCCCTCCACGATGCCAA-3'
YWHAZ	5'-TGAAGTCCCCTGAGAAAGCC-3'	5'-TCCGATGTCCACAATGTCAAGT-3'
Genes of interest		
GCLC	5'-CCCGATGAAGCCATCAACAAG-3'	5'-TCTTGTCTTAAAGATGGGCACG-3'
HMOX1	5'-CCGCCTTCCTGCTCAACATC-3'	5'-GGGAGCCGAGTCTTGTGCC-3'
TXNRD1	5'-TGGGGAAGAAAATGTTGAGGTTT-3'	5'-GACCCAGTATGTGGAAGCCC-3'

Abbreviations: ovRPS15: ovine ribosomal protein S15, GAPDH, glyceraldehyde 3-phosphate dehydrogenase, YWHAZ: 14-3-3 protein zeta/delta, GCLC: glutamate-cysteine ligase catalytic subunit, HMOX1: heme oxygenase 1; TXNRD1: thioredoxin reductase 1.



Supplementary Figure S1. Cellular morphology and tissue organisation of colonic biopsies of a NEC patient with severe damage and controls imaged with TEM. Whereas the upper crypt of control infants consists of organized and identifiable goblet cells and colonocytes (A, N=2), the tissue organization and cellular morphology of the upper colonic crypt in the NEC patient is completely and severely damaged; mainly blood accumulation and infiltration (red arrows) is seen in this severely injured and necrotic tissue (B, N=1). In the lower crypt of controls, the organization and morphology of both colonocytes and goblet cells (insert) are normal (C, N=2). The tissue and cellular organization is completely disrupted in the NEC patient; no recognizable lower crypt structure (red line) or cellular morphology is observed; small capillaries (red arrows) are present (D, N=1). Scale bars indicate 5µm and 10µm respectively. Abbreviations: GA: gestational age; L: lumen; NEC: necrotizing enterocolitis; TEM: transmission electron microscopy