

OMTN, Volume 28

Supplemental information

**Mincle-binding DNA aptamer demonstrates
therapeutic potential in a model
of inflammatory bowel disease**

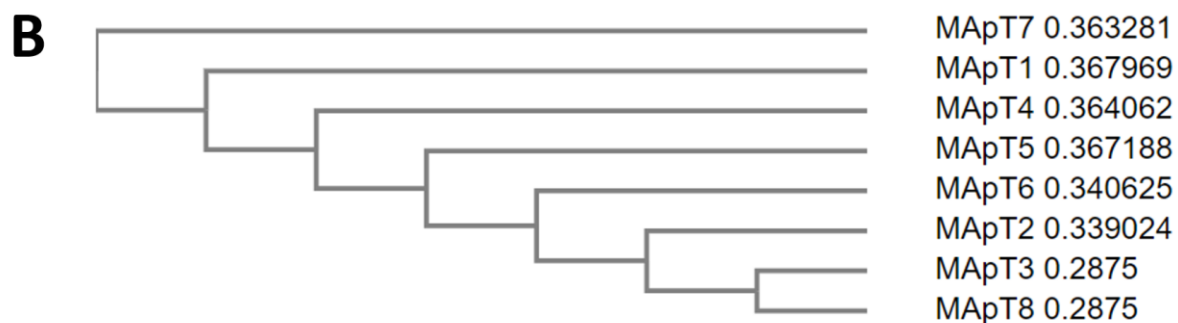
Matthew Stephens, Keith Keane, Simon Roizes, Shan Liao, and Pierre-Yves von der Weid

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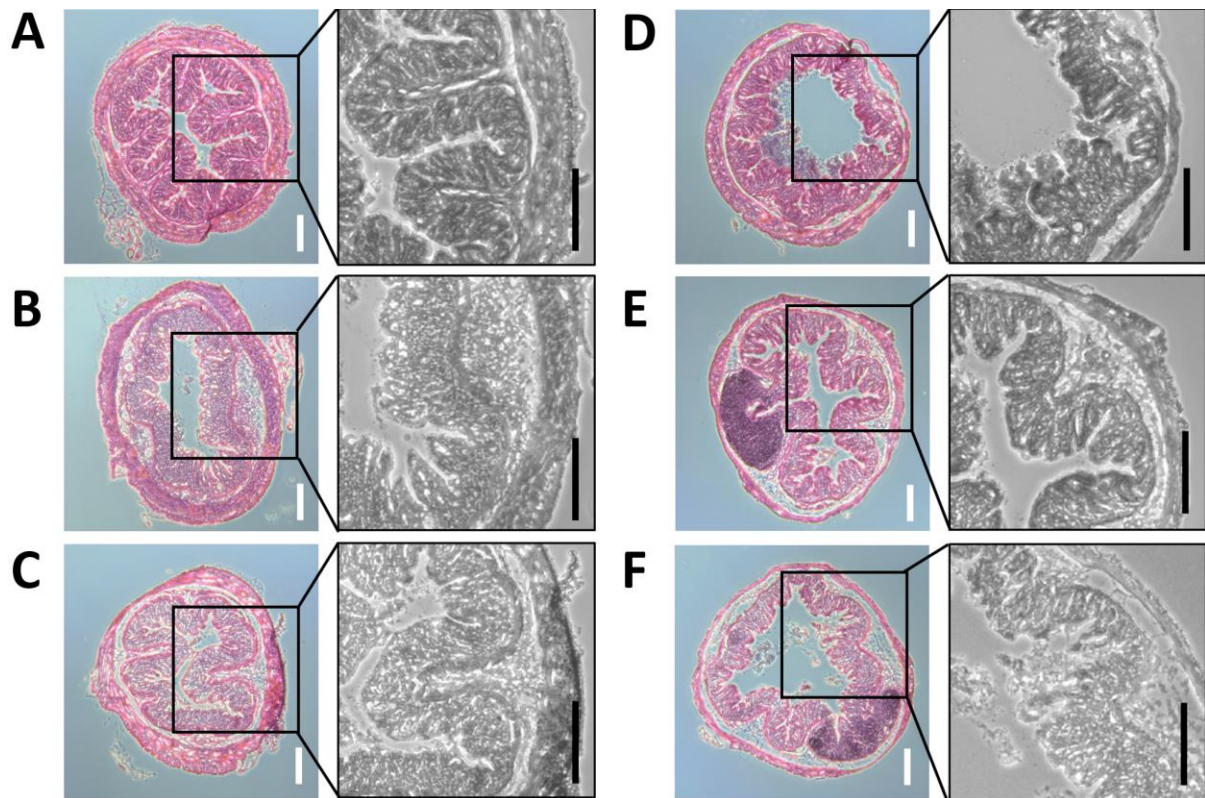
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MApT1 ---AGTGGGGGGGTA-GCCACTTGATGCGCTAATGATGGTGT-----TG--
MApT4 --CCGCAT-----TTGCCTTTTAACTTACTCCTTATCCTTAC--GT-TGG-
MApT5 CGCAGAAGGGAAACG-GGTTTTTTGTGAATCACGACC----TT-----TG--
MApT6 --CCGTAATGTCGTTTCTCACTTTTTCACTATGTATGGTTCA-----
MApT2 -ACAGGGCTTCACA----CCATTTTTGTTACTGTCCTTTTCTC-----GTG-
MApT3 -----CCCGCATCGTTATCTCTTTGTGCATCTTTCGTCTTTTT-----TGG-
MApT8 -TCGGTGACGGTGGTTATTTGTTTTAAGTTCTTTTGT----TT-----TG--

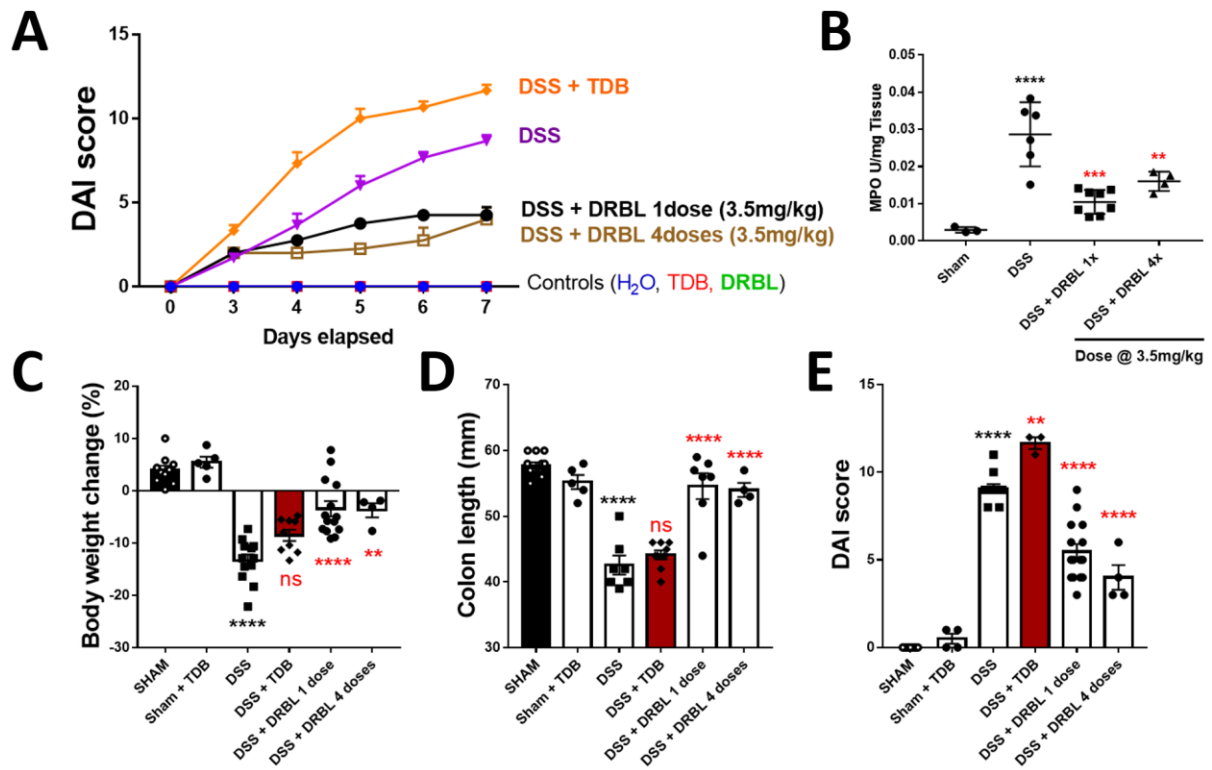
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Supplemental figure 1 – Clustal Omega sequence alignment and family analysis of most abundant anti-Mincle aptamer sequences. The 8 identified, highly recurrent aptamer sequences within the final round of SELEX are presented. **A)** Their sequence similarity and alignment determined by Clustal Omega. **B)** Their predicted family order delineating sequence similarity across species.



Supplemental figure 2 – Representative histological H&E section staining on colonic luminal cross-sections of DSS and treated mice. H&E staining and close ups of 10µM sections of colonic luminal cross sections in **A)** sham treatment (H₂O), **B)** DSS (2.5% for 7 days), or **C)** DSS + AptMincle^{DRBL} **D)** DSS + AptMincle^{CORE} **E)** DSS + AptMincle^{PORT} **F)** DSS + AptMincle^{RND} (2.5% DSS + 3.5mg/kg AptMincle given I.P. on day 3). Scale bar = 50µm.



Supplemental Figure 3: TDB exacerbates DSS-colitis phenotype and repeated doses of AptMincle^{DRBL} does not improve therapeutic terminal outcome in DSS mice compared with a single-dose. A) Disease activity index scoring (DAI) is not significantly improved by repeated dosage of AptMincle^{DRBL} (DSS + DRBL 1dose/4dose) but is worsened significantly by addition of TDB gavage (1mg/kg). **B)** MPO activity of AptMincle DSS mice does not improve with repeated doses. **C-D)** Body weight change of DSS mice with TDB is not significantly altered by TDB co-administration nor repeated doses of AptMincle^{DRBL}. **E)** Terminal disease activity score is worsened by TDB co-administration with DSS treatment. Anova with Sidaks posthoc test ** $P < 0.01$, *** $P < 0.001$, **** $P < 0.0001$. Black stars represent significance from Sham controls while red stars indicate significance against DSS groups. n=4-12.