Table S1: shRNA sequences

shRNA name	sequence
ADAM9-2834 316	5´-ccccgcagtgattctcaaattaactttcaagagaagttaatttgagaatcactgcttttt-3´
ADAM9-2722 317	5´-ccccgcagtaaagccagggaatttattcaagagataaattccctggctttactgcttttt-3´
ADAM10-TRC7 319	5´-ccccgacatttcaacctacgaatttctcgagaaattcgtaggttgaaatgtcttttt-3´
ADAM10-TRC9 320	5´-ccccggacaaacttaacaacaatttcaagagaattgttgttaagtttgtccttttt-3´
ADAM17-TRC68	5´-ccggccagcagcattcggtaagaaactcgagtttcttaccgaatgctgctggttttt-3´
ADAM17-TRC72	5´-ccggcctatgtcgatgctgaacaaactcgagtttgttcagcatcgacataggttttt-3´
ADAM19-1992 347	5´-ccccgcaggaacacctccttctttgttcaagagacaaagaaggaggtgttcctgcttttt-3´
ADAM19-2379 348	5´-ccccgcaagcgaaaggtgatcaacattcaagagatgttgatcacctttcgcttgcttttt-3´
Control	5´-cccccaacaagatgaagagcaccaattcaagagattggtgctcttcatcttgttgttttt-3´

Sequences of shRNAs against ADAM9 (2834 316 =1, 2722 317 =2), ADAM10 (TRC7 319=1, TRC9 320=2), ADAM17 (TRC68=1, TRC72=2), ADAM19 (1992 347=1, 2379 348=2) and of a control shRNA are listed.

Figure S1

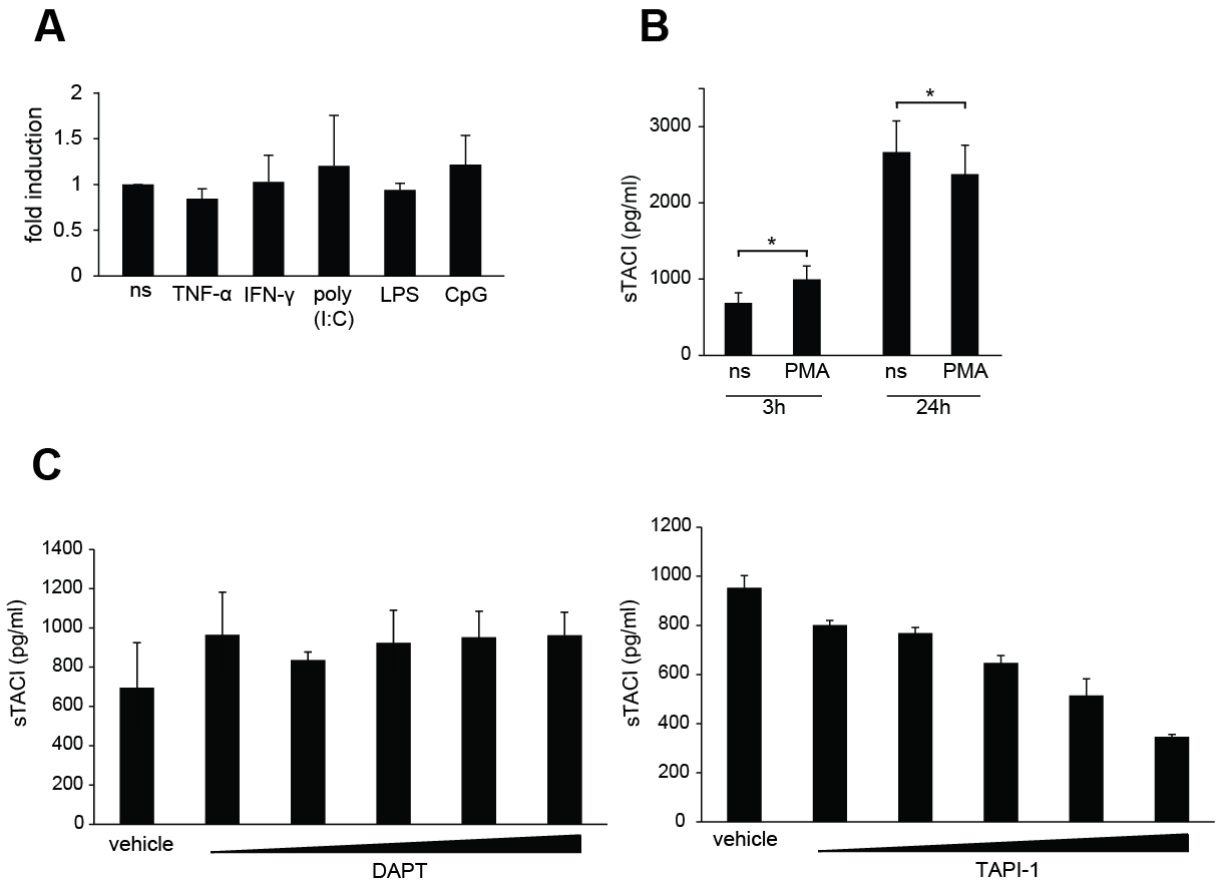

Figure S1. *sTACI production is not modulated by TLR-ligands or cytokines and blocked by TAPI-I.* (**A**) Raji cells were stimulated for 3 hours with poly(I:C), CpG (ODN2006), TNF-α and IFN-γ. Supernatants were harvested and sTACI levels were determined by ELISA; combined data of 3 independent experiments (mean±SEM). (**B**) Raji cells were treated with PMA (100 ng/ml), for 3 and 24 hours. Supernatants were harvested and sTACI production was determined by ELISA (two-tailed, paired T-tests); combined data of 4 independent experiments (mean±SEM). (**C**) Human purified B cells were activated via CD40L + IL-21 for 4 days. Release of sTACI was determined after treatment with DAPT (0.01, 0.03, 0.1, 0.3, 1 µM) or TAPI-1 (1, 3, 10, 25, 50 µM) for another 24 hours (representative data of two different donors). Representative data of 2 independent experiments (mean±SD).

Figure S2

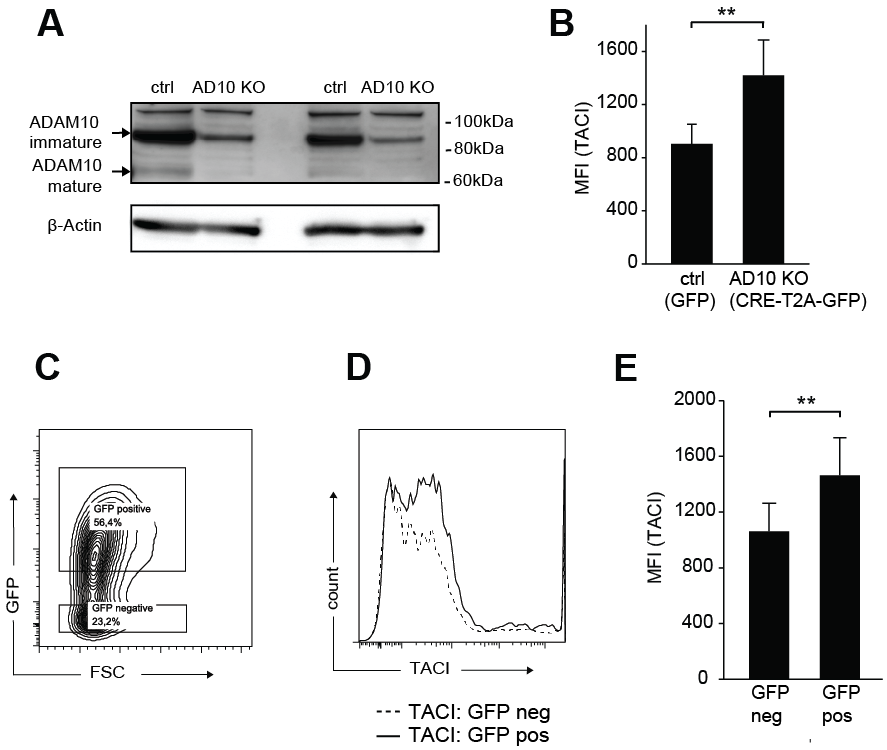

Figure S2 *Effects of ADAM10 KO on TACI surface expression on murine B cells* (**A, B, C, D, E**) B cells from conditional ADAM10 knock-out mice with floxed ADAM10 were stimulated for 48h with CpG (ODN1668) and CD40L. To achieve knock-out they were retrovirally transduced with CRE-recombinase followed by the self-cleaving T2A peptide and GFP (CRE-T2A-GFP; AD10 KO) or control retrovirus expressing GFP (ctrl; GFP). (**A**) 48h later ADAM10 expression was determined in FACS-sorted GFP positive cells; results from 2 out of 5 analysed mice (**B**) TACI surface expression on GFP-positive cells was determined by FACS comparing cells infected with control virus or CRE-T2A-GFP virus; mean fluorescence intensity (MFI) of TACI surface expression was calculated by subtracting the isotype fluorescence signal; combined data of 8 independent experiments (two-tailed, paired T-test) (mean ± SEM)). (**C, D, E**) TACI expression was compared between GFP positive and GFP negative cells after transduction with the CRE-T2A-GFP virus. (**C**) Gating on GFP positive and negative cells. (**D**) Histogram showing TACI expression on GFP positive and negative cells, representative experiment. (**E**) Combined data of 8 independent experiment; mean fluorescence intensity (MFI) of TACI surface expression was calculated by subtracting the isotype fluorescence signal (two-tailed, paired T-test) (mean ± SEM)).

Figure S3

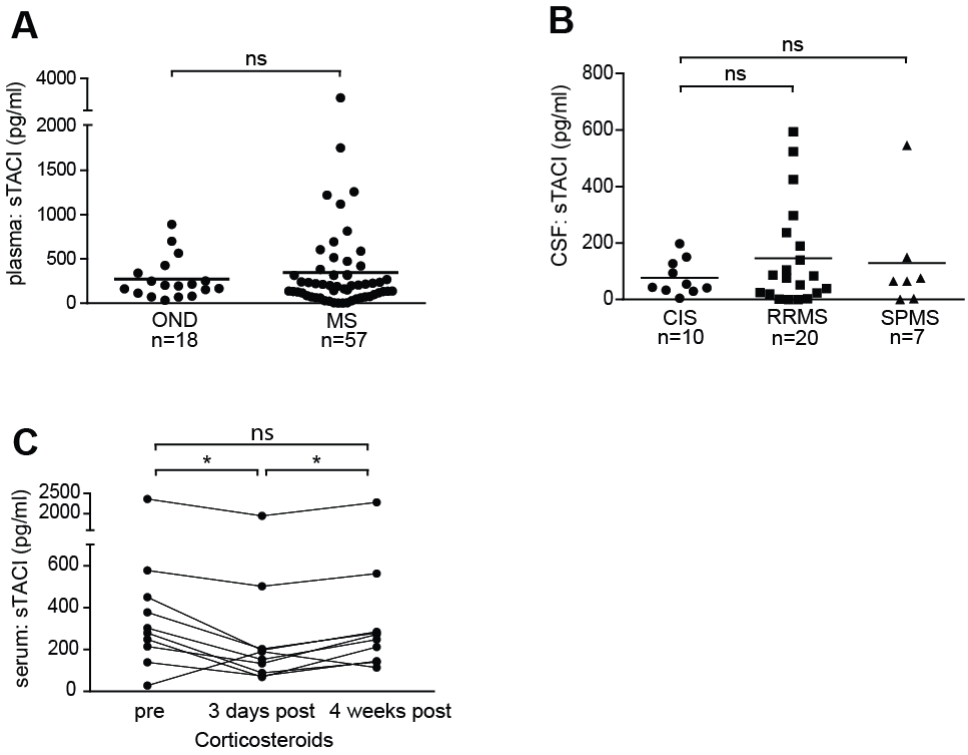

Figure S3. *sTACI in the CSF of MS subgroups and in plasma of MS versus OND patients; influence of corticosteroid treatmen*t. (**A, B**) sTACI levels were determined by ELISA in the CSF or plasma of the indicated patient groups (two-tailed, unpaired and non-parametric T-test). (**C**) sTACI levels were determined in the course of high dose corticosteroid treatment (n=10); sTACI levels were reduced within 3 days after treatment and returned to pre-therapy values 4 weeks after treatment (two-tailed, paired T-test).