Supplementary Figure. S1. No influence of platelet isolation and labeling on P-selectin expression. Comparison of surface expression of P-selectin (as a representative activation marker) in circulating host platelets with surface expression of P-selectin on isolated, washed and ex vivo labeled platelets after transfusion yielded no significant difference (Left: FACS example, right: mean values of 4 experiments (t-test).

Supplementary Figure. S2. Representative images of thrombus formation in ADAMTS13 KO venules. (A), (B) Platelet aggregate (yellow) together with adhering leukocytes (red) at the venular bifurcation in cremaster microcirculation in vivo. (C) Deficiency of ADAMTS13 together with MegaCDL stimulation resulted in increased thrombus formation in venules (*p ≤ 0.05, Mann-Whitney U-test).
Supplementary Figure. S3. Intracellular (red) and released (cyan) endothelial vWF in HUVECs under different stimulatory conditions without shear stress. (A) VWF is mainly stored in the cells under control conditions (B) but released upon CD40L stimulation forming short vWF fibers (C) and much longer ULVWF multimers (white arrow heads) with histamine.

Supplementary Figure. S4. CD40 expressing cells are pericytes as confirmed by α-SMA labeling. The z-projection of an arteriole in a fixed cremaster with prior TNF-α treatment showing CD40 expressing cells (blue) wrapped around an arteriole labeling positively for α-SMA (bright red, white arrow heads), suggesting them to be pericytes. α-SMA expression in pericytes was weak in comparison to an arteriole, therefore α-SMA channel was enhanced in brightness to observe its expression in pericytes in bright red image. The arteriole itself is showing no sign of CD40 expression. The images were taken with a confocal microscope equipped with a 63x objective.
Supplementary Figure. S5. CD40 expressing cells are pericytes confirmed by NG2 labeling. The confocal microscopy z-projection of a fixed cremaster with prior TNF-α treatment showing CD40 expressing cells (blue, white arrow heads) next to vessels are also positive for the pericyte marker NG2 (red, white arrow heads).

Supplementary Figure. S6. Quantification of perivascular leukocytes. Perivascular leukocytes (A) in an arteriole and (B) a venule of cremaster microcirculation in vivo. The white square indicates the representative selected area for quantifying transmigrated leukocytes. In this example there was no transmigrated leukocyte next to an arteriole while the venule had 17 transmigrated leukocytes in 100 × 100 μm². Blue arrows indicate the direction of blood flow and white arrow heads are pointing towards extravasated leukocytes. (C) Quantification of extravasated leukocytes in the regions with and without platelet strings in venules upon CD40L stimulation, (n = 6, mean ± SEM ***p ≤ 0.001, t-test).