Supplemental Figure 1: Structure of ADAM-15 and experimental plasmids.

***a*)** Domain structure of ADAM-15 (metargidin) and sequence alignment of RDD with the disintegrin domains of human and murine ADAM-15. * indicates amino acids shared in all three sequences.

***b*)** Map with restriction sites of the *pVAX1* vector with inserted RDD or RDD-RFP, respectively. The *pVAX* vector contains 2999 bp (CMV promoter: bases 137-724; T7 promoter/priming site: 664-683; multiple cloning site: 696-811; BGH reverse priming site: 823-840; BGH polyadenylation signal: 829-1053; kanamycin resistance gene: 1226-2020; pUC origin: 2320-2993).

Supplemental Figure 2: Recombinant RDD inhibits endothelial functions *in vitro*.

***a*)** Monolayer cultures of CPAE endothelial cells were scratched in a standardized fashion, resulting in a cell-free lane in each culture. Cultures were then kept in normal medium or exposed to the indicated concentrations of purified RDD, and migration of endothelial cells into the cell-free area was monitored for up to 15h. The margins of the cell layers are indicated by black lines.

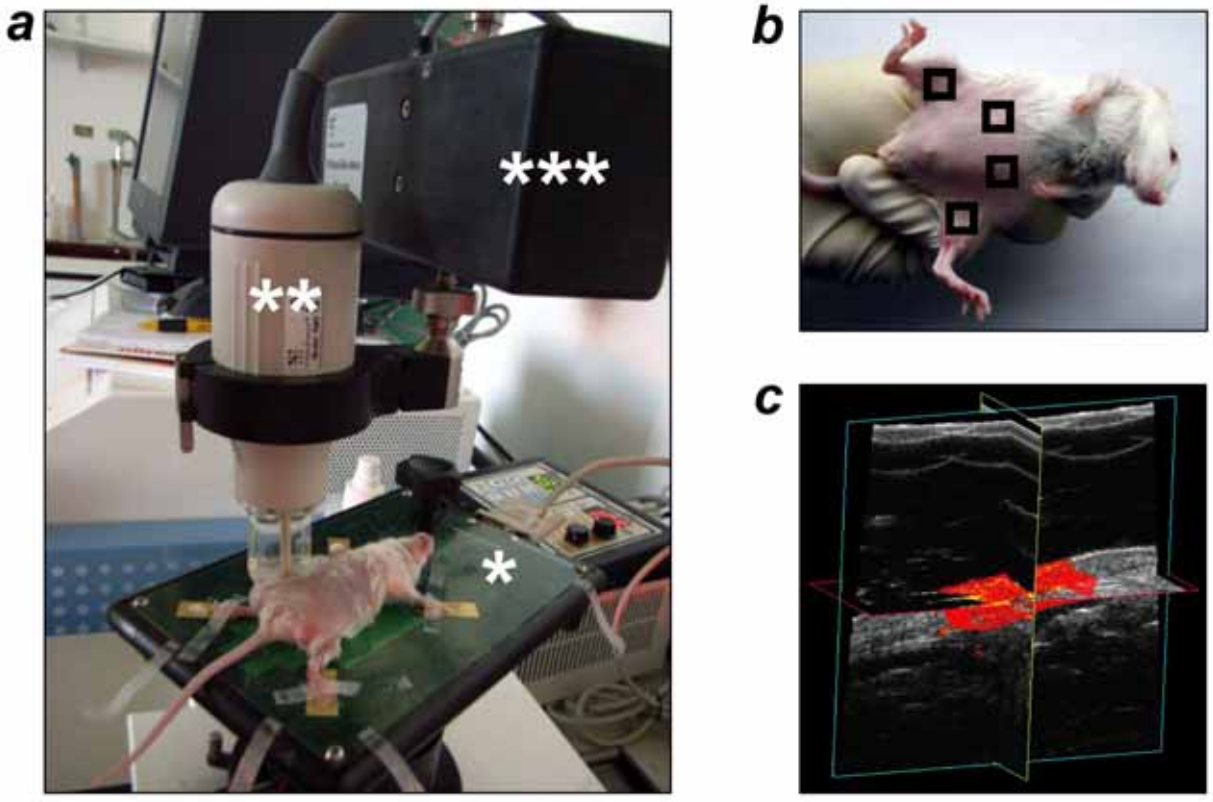
***b*)** Quantitative analysis of CPAE cultures described in *a*) shows dose-dependent delays of the closure of the cell-free areas. Each bar represents the mean of 16 to 21 individual cultures for each condition (±SD). ***indicates $p<0.001$ compared to the untreated control.

Supplemental Figure 3: Standardized measurement of the cutaneous blood flow.

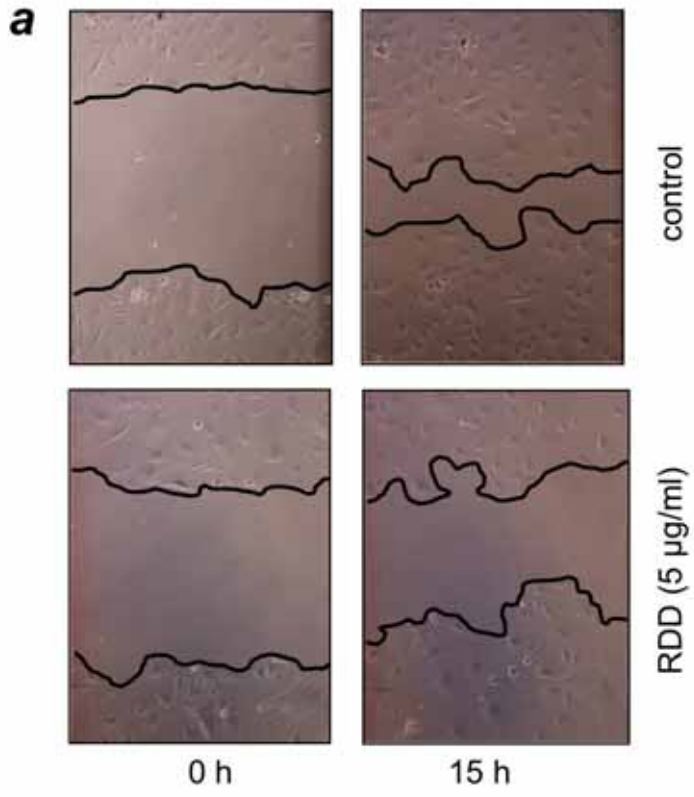
***a*)** Anaesthetized mice are placed gently on a temperature-regulated platform (adjusted to 37°C, indicated by *), and the RMV™ 708 Scanhead (**) is positioned precisely through its 3D motorization (***).

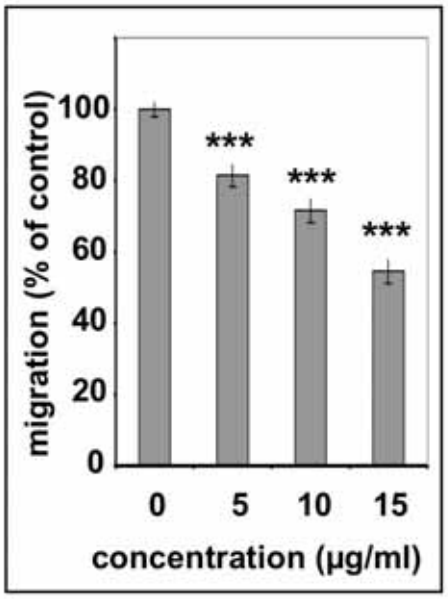
***b*)** Four areas in each mouse were measured in a standardized fashion as indicated. The large femoral vessels and abdominal mamillae were used as reliable orientation structures to measure the exact same regions at each time point.

***c*)** The blood flow in three-dimensional areas of the upper dermal plexus were measured as exemplified and are expressed as percentages of the entire volumes.

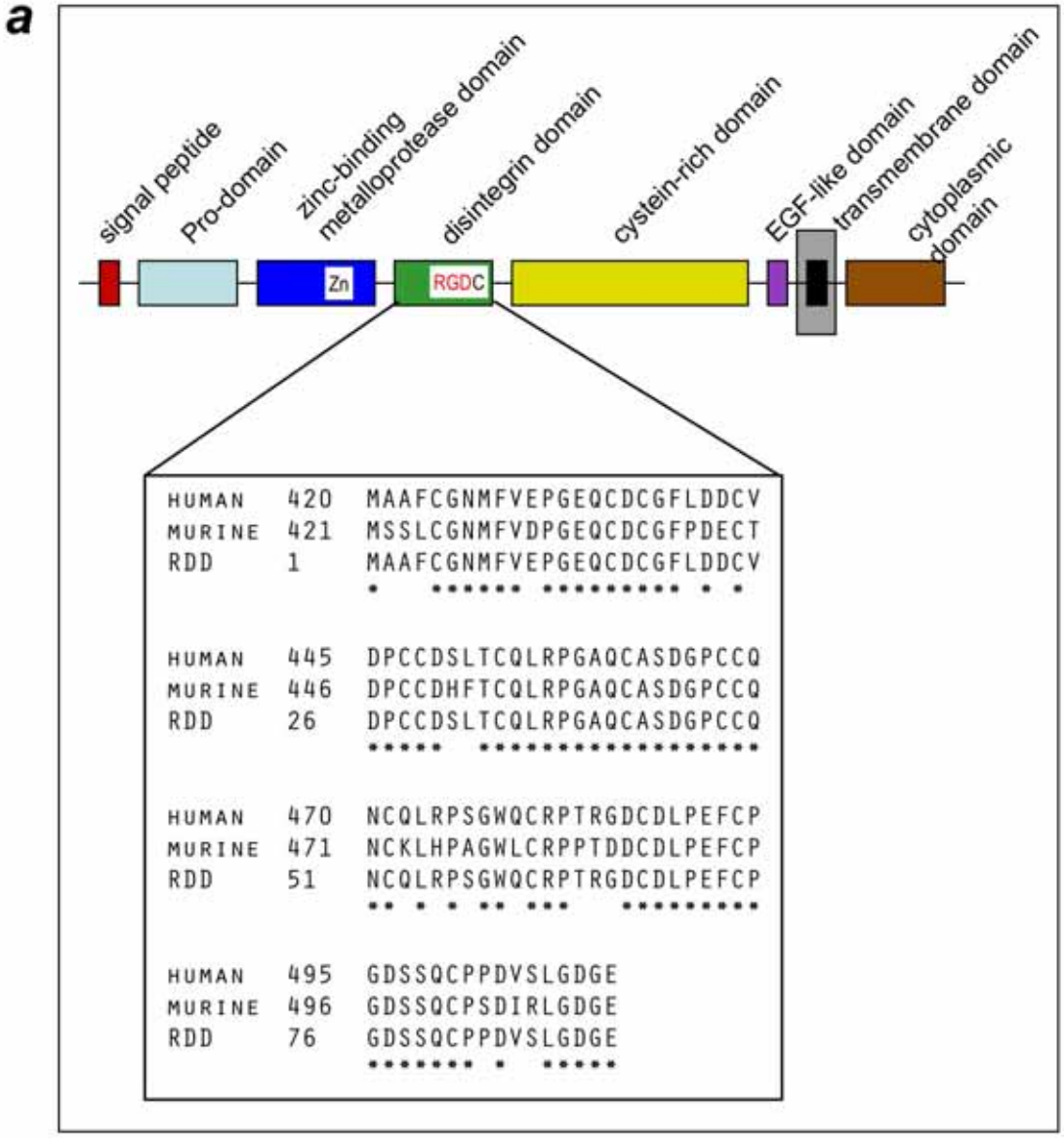


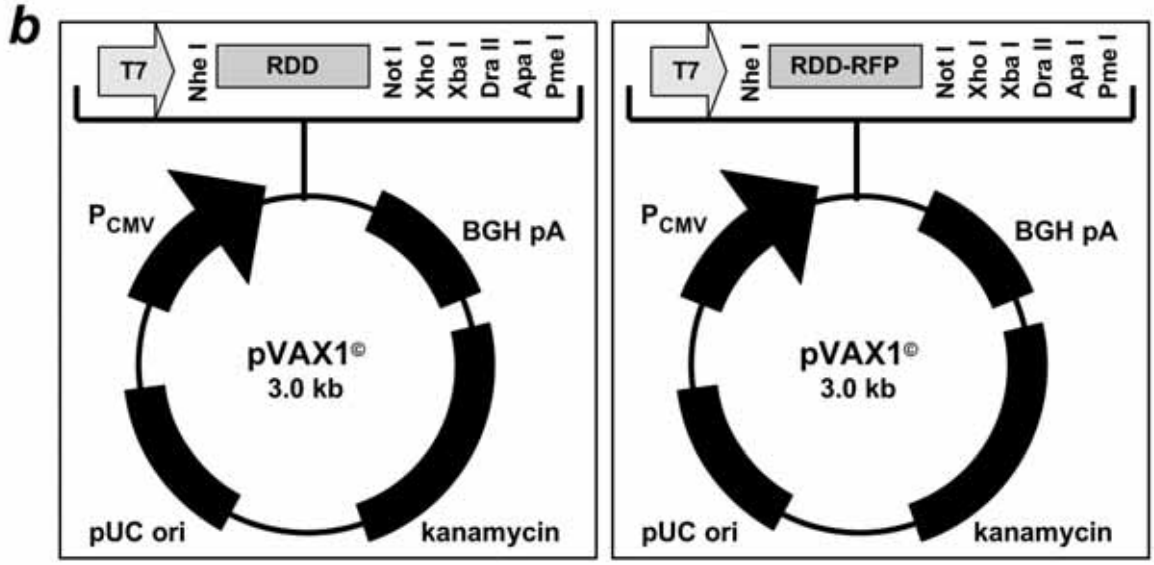
Zibert, Wallbrecht et al., supplemental Fig. 3





Zibert, Wallbrecht et al., supplemental Fig. 2





Zibert, Wallbrecht et al., supplemental Fig. 1