elevated ratio (1.6) starting after 2 hours. Later time points were not recorded. The data are consistent with a prolonged VWF:Ag residence time.

## **Supplemental movies**

Intracellular localization of wtVWF (video 1) compared to mVWF (video 2).

After recombinant expression of wtVWF or mVWF in HEK293 cells for 48 h, the cells were fixed and VWF proteins (green) and PDI (red) were detected by indirect immunofluorescence employing rabbit anti-VWF and mouse anti-PDI antibodies, respectively. Z-stacks were recorded with a confocal microscope using an HC PL APO CS2 63.0x1.40 OIL UV objective and the following settings: image size of 512 × 512, laser power of the 543 and 488 lasers was set to 9 % and 20 %, respectively. 3D reconstruction was performed using the LAS software (Leica) and saved as movie files. A 360° rotation of a representative cell expressing either wtVWF or mVWF is shown in video 1 and 2, respectively.

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