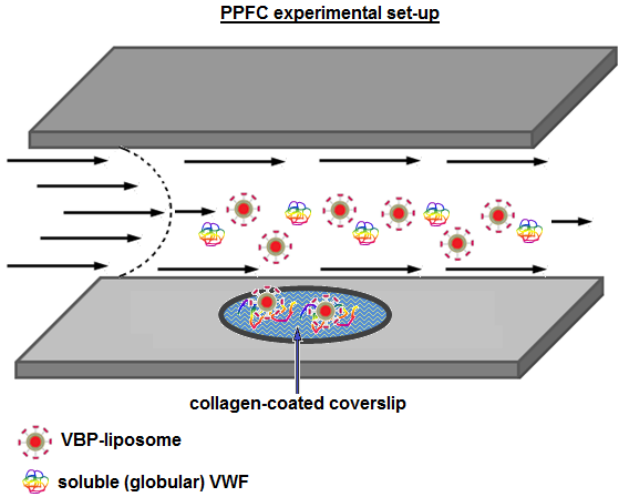
## Supplemental Data

### Experimental rationale:

The purpose was to test whether VBP-decorated liposomes were capable of binding to soluble VWF at low shear (and without ristocetin treatment) and thereby undergo VWF-mediated binding onto collagen under such low flow conditions. The occurrence of such events would indicate the possibility that VBP-liposomes can interact with soluble VWF and collagen even under normal physiological condition (e.g. no injury or high shear flow) and thereby may pose risk of systemic aggregation without sensitivity towards VWF's conformational changes (which usually happens in pathologic conditions of vascular injury and high shear).

### Experimental design:

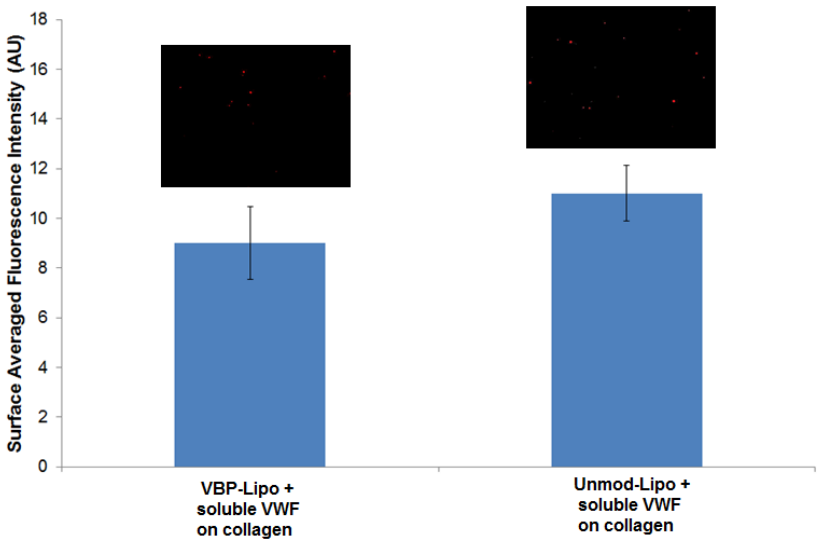
Coverslips were coated with collagen and attached to glass slides. The slides were place in a parallel-plate flow chamber (PPFC) and exposed to a flow of buffer containing rhodamine-labeled (red fluorescent) VBP-liposomes or unmodified-liposomes and physiological concentration of soluble VWF (10-20 μg/ml) at low wall shear (< 10 dynes/cm$^2$). The schematic of the experimental set-up is shown below in Supplemental Figure 1. After 30 min of exposure, the slide surface was imaged and the surface-averaged rhodamine fluorescence intensity (reflective of VBP-liposome binding to the surface) was quantified.




**Supplemental Figure 1.** PPFC experimental set-up to study the binding of VBP-lipoosmes (or unmodified liposomes) to physiological concentration of soluble VWF under low shear flow on a collagen-coated surface

**Results:**

As shown in Supplemental Figure 2, the binding of the VBP-liposomes or unmodified liposomes to the collagen-coated surface in presence of physiological concentration of soluble VWF at low shear flow was minimal. This indicates that the VBP-liposomes do not have substantial binding to soluble VWF, and do not pose any systemic pro-thrombotic risks.




**Supplemental Figure 2.** Fluorescence intensity analysis from the PPFC experiments show that both VBP-liposomes and unmodified liposomes bind to the collagen-coated surfaces only at very minimal extent in presence of soluble VWF at low shear conditions, suggesting minimal conformational change of the VWF at low shear and minimal interaction of VBP-lipoosmes with such physiological soluble (globular) VWF.