**Figure S1.** Inhibition of αIIbβ3 integrins impairs histone-induced aggregation of human platelets. Aggregometry of human washed platelets in the presence of plasma. (A) Platelets were stimulated with histones or ADP to induce aggregation. (B) Aggregation was induced with histones or ADP in the presence of the αIIbβ3 inhibitor tirofiban. Tirofiban reduced aggregation in response to histones and prevented ADP induced aggregation.

**Figure S 2.** Fibrinogen and VWF enhance histone induced aggregation of human platelets. Aggregation was induced by histones (100 µg/ml) in the presence of indicated concentrations of (A) fibrinogen (Fg) or (B) VWF. (C) Statistical evaluation of aggregation 3 min post stimulation. Addition of plasma (2.5%), fibrinogen (200 µg/ml) or VWF (10 nM) significantly enhanced HiPA (* P < 0.05, *** P < 0.001 compared to w/o).
Figure S3. Heparan sulphate inhibits histone binding to platelets and HiPA. (A) Heparan sulphate prevents histone binding to platelets. Platelets were mixed with heparan sulphate at concentrations ranging from 0-1000 µg/ml and fluorescent histones at 100 µg/ml. At a heparan/histone ratio of 1:1 or higher, heparan prevented histone binding to platelets (*** P < 0.001 compared to 0). (B) Heparan sulphate prevents HiPA. Platelets were mixed with fibrinogen (200 µg/ml) and stimulated with histone H4 (10 µg/ml) in the absence (black line) or presence of heparan sulphate (100 µg/ml, red line). Heparan sulphate prevented platelet aggregation in response to histone H4 but not ADP.