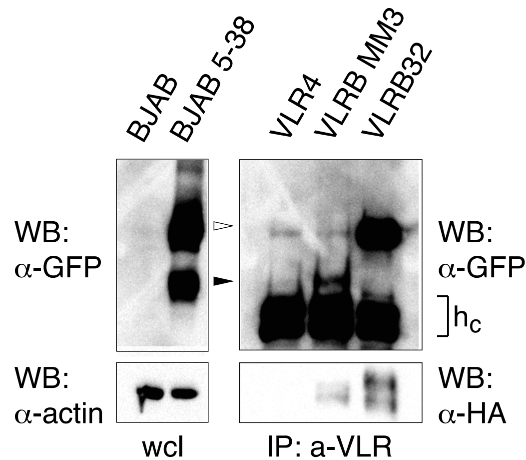
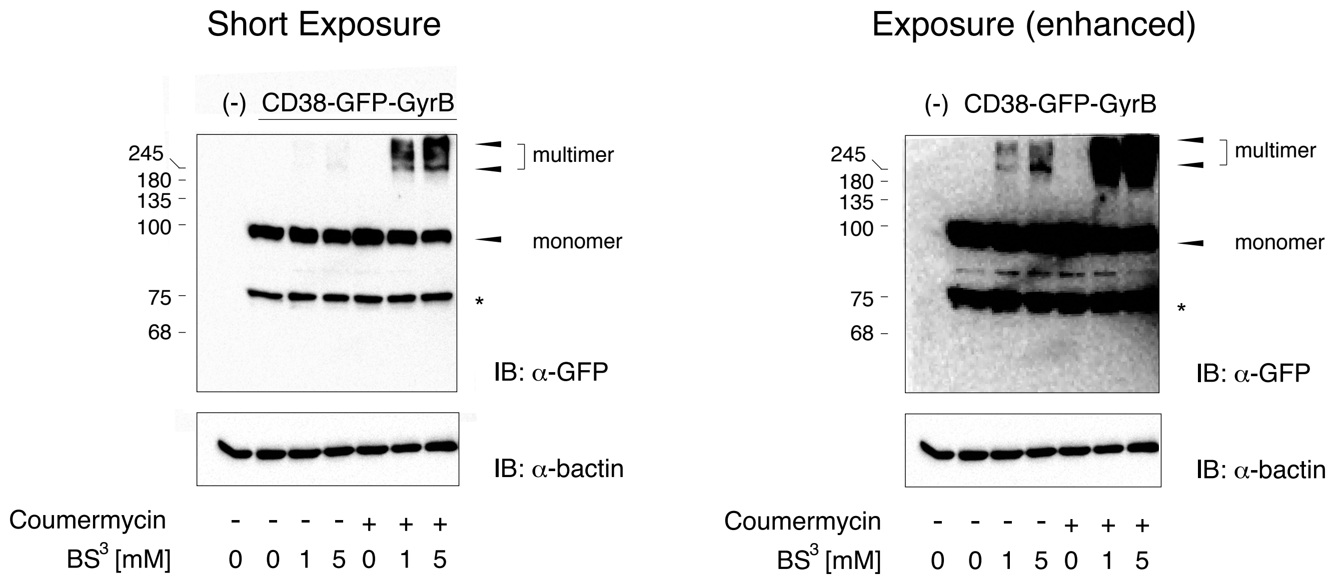
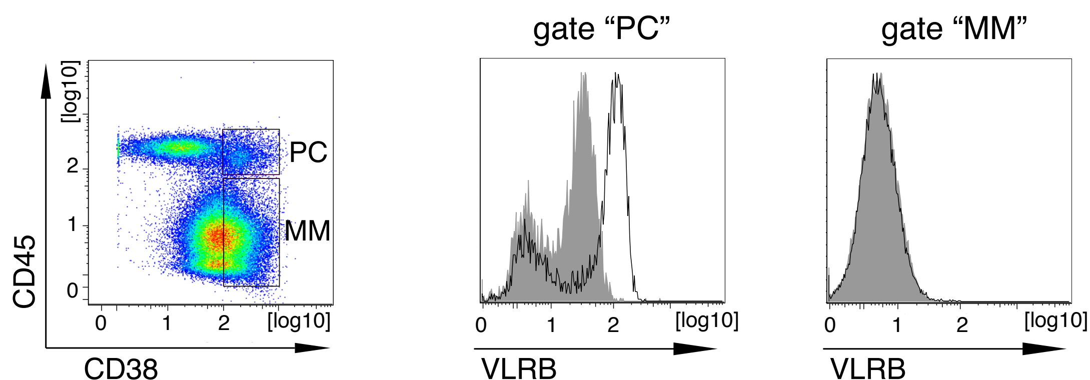


Supplemental Figure 1: Co-Immunoprecipatation of VLRB MM3 and CD38. BJAB 5-38 cells expressing CD38-GFP and CD5-GFP were stained with the indicated HA-epitope tagged VLR antibodies and cross-linked with the thiol-sensitive, membrane-non-permeable DTSSP crosslinker prior to cell lysis. Whole cell lysates (wcl) and anti-HA epitope tag immunoprecipitates were resolved by SDS-PAGE under reducing conditions and blotted with anti-GFP antibodies (top panels). The membranes were re-probed with anti-actin or anti-HA epitope tag antibodies (bottom panels), respectively, to indicate loading or immunoprecipitated VLR antibodies. The location of CD5-GFP is indicated by an open arrowhead and the location of CD38-GFP by a closed arrowhead. A signal resulting from the heavy chains (hc) of the immunoprecipitating anti-HA-tag antibodies is indicated. Shown is a representative of 4 independently performed experiments.



Supplemental Figure 2: Coumermycin-induced dimerization of CD38-GFP-GyrB. BJAB cells stably expressing the CD38-GFP-GyrB fusion protein were treated with 1μM coumermycin where indicated, followed by addition of the indicated concentrations of the membrane non-permeable, amine-reactive thiol-insensitive crosslinker BS^3 and cell lysis. The cell lysates were resolved by SDS-PAGE under reducing conditions followed by western blotting with anti-GFP antibodies (top panels). The membrane was stripped and reprobed with anti-β-actin antibodies to ascertain equal loading (bottom panels). Control cell lysate from parental BJAB cells is included in the first lane (-). Positions of monomeric and multimeric fusion proteins are indicated by arrowheads. The molecular weight of the fusion protein is calculated at Mw=87.52kD. Based on the apparent Mw a GFP-reactive signal indicated by an asterisk (*) might represent a fusion protein processed to lack the GyrB fusion partner. Note that a long exposure of the membrane with enhanced signals reveals expected multimeric CD38-GFP-GyrB fusion proteins in the absence of coumermycin-induced aggregation.



Supplemental Figure 3: Differential staining of healthy and malignant plasma cells in bone marrow aspirates of a multiple myeloma patient. Bone marrow cells were stained with antibodies to CD38, CD45 and VLRB MM3 or VLR4 control. Gates were placed on cells of equal CD38 expression within the healthy plasma cell (PC) and malignant plasma cell (MM) populations and analyzed for their recognition by VLRB MM3. Histograms indicate binding of VLRB MM3 (open black histogram) and VLR4 (filled grey histogram).