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Supplemental Fig. S1 Representative experiments showing the dose-dependent effect of proteasome inhibition on the expression of HLA-DR at the KG-1 (**a**) and ME-1 (**b**) plasma membrane. Histograms (*unfilled peaks*) with their corresponding IgG controls (*filled peaks*) are shown for blasts treated with increasing concentrations of the MG-132 and bortezomib proteasome inhibitor.



Supplemental Fig. S2 Control experiments for the retroviral transduction effect on surface HLA class I ('ABC'), surface HLA-DR and li expression. We performed two independent transductions of KG-1 blasts with irrelevant GFP-encoding retrovirus and related MFI values (± SEM) on GFP-gated transduced ('GFP retro') blasts to those on wild type ('WT') blasts.



Supplemental Fig. S3 TAP inhibition in the CLIP⁻ ME-1 leukemic cell line and the effect on HLA-DR levels at the plasma membrane. ME-1 blasts were transduced with GFP-encoding UL49.5 retrovirus and analyzed for HLA class I ('ABC') and HLA-DR expression after flow cytometric sorting of GFP-expressing blasts. Histograms of GFP-gated blasts are depicted.



Supplemental Fig. S4 Puromycin selection of TAP-inhibited KG-1 blasts bearing li siRNA. GFP⁺ KG-1/UL49.5/DR⁺ blasts retrovirally transfected with li siRNAs were selected by adding puromycin after two days of treatment. During this selection, we performed flow cytometric analyses of li and total HLA-DR expression levels in permeabilized blasts (*dot plots*), as well as plasma membrane expression of HLA-DR on intact, 7AAD⁻ blasts (*unfilled* histograms). Stainings of the same cells with control IgG are shown as *filled* histograms.