Supplementary Information

Bioluminescent imaging of ABCG2 efflux activity at the blood-placenta barrier

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Supplementary Figure S1

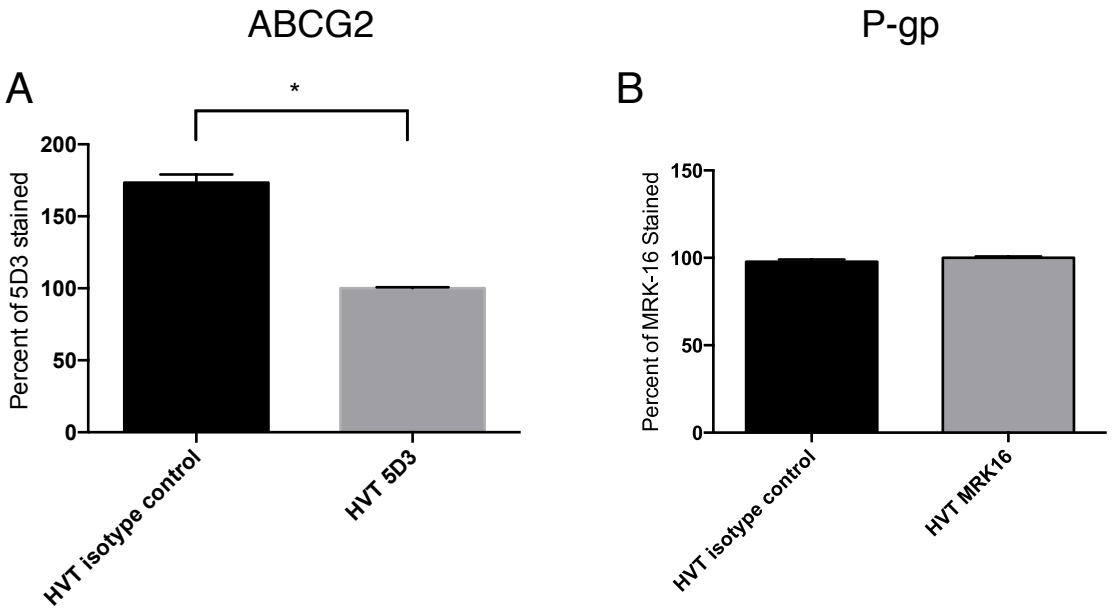

Figure S1. Cell surface expression of transporters by HVT cells. (A) Undetectable levels of ABCG2 expression, as determined by flow cytometry. (B) Undetectable levels of P-gp expression, as determined by flow cytometry. Data normalized to fluorescence measured in the antibody stained condition for each cell line from three experiments ± SD (*$p < 0.05$ by Student's t test).

Supplementary Figure S2

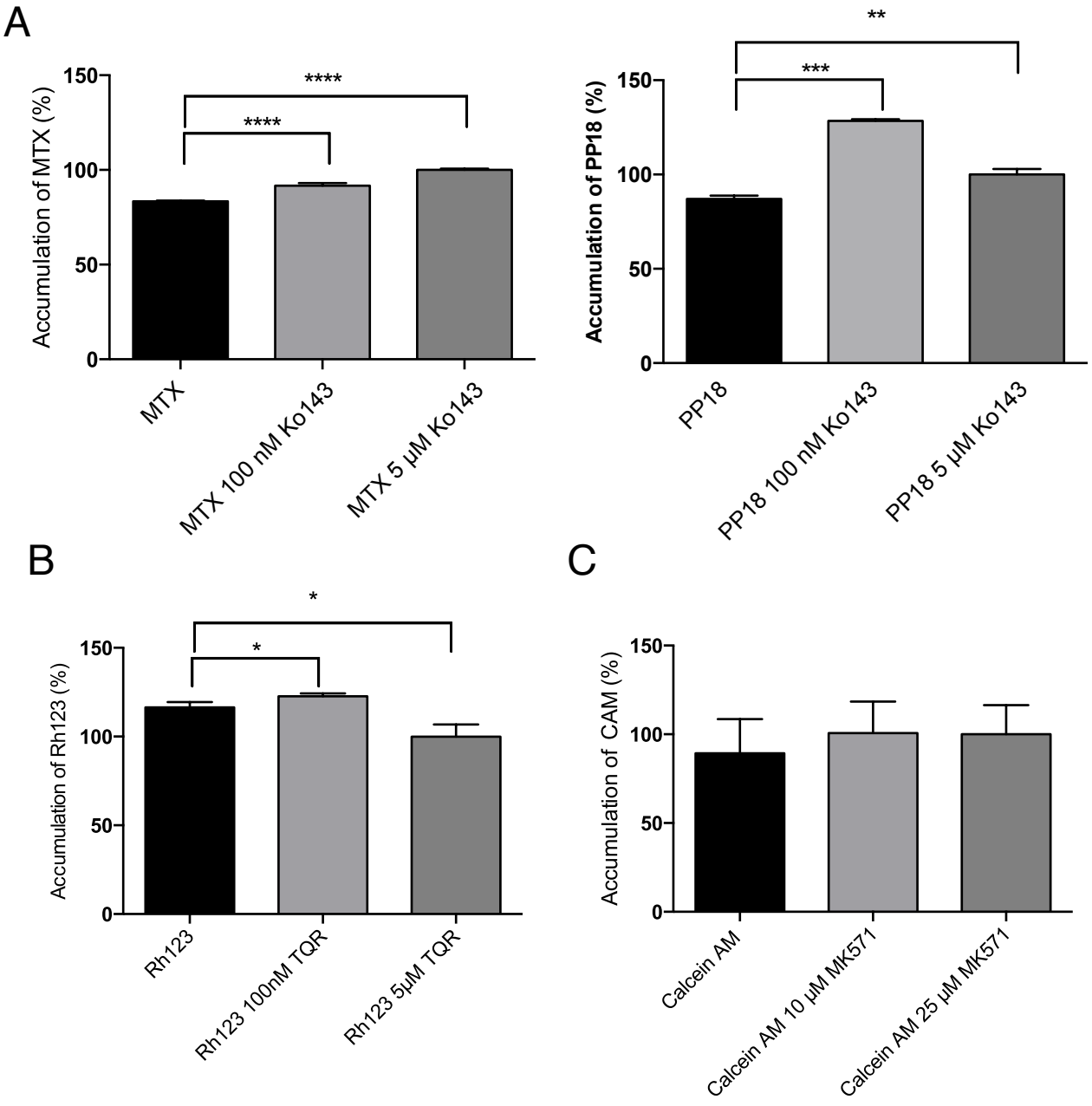

Figure S2. Accumulation of fluorescent substrates of ABCG2, P-gp, and MRP1 measured by flow cytometry in HVT cells. (A) ABCG2 substrates, mitoxantrone (10 μM) and purpurin 18 (15 μM) accumulation increased with Ko143 (100 nM, 5 μM) coincubation. (B) Accumulation of P-gp substrate rhodamine 123 (2 μM) and MRP1 substrate calcein-AM (1 μM) accumulation did not increase with coincubation with their respective inhibitors tariquidar (100nM, 5 μM) and MK571 (10 μM, 25 μM). All accumulation values are normalized to accumulation of the maximally inhibited condition. Data represent means ± SD of three experiments (**p< 0.01, ***p< 0.001, ****p< 0.0001 by Student's t test).

Supplementary Figure S3

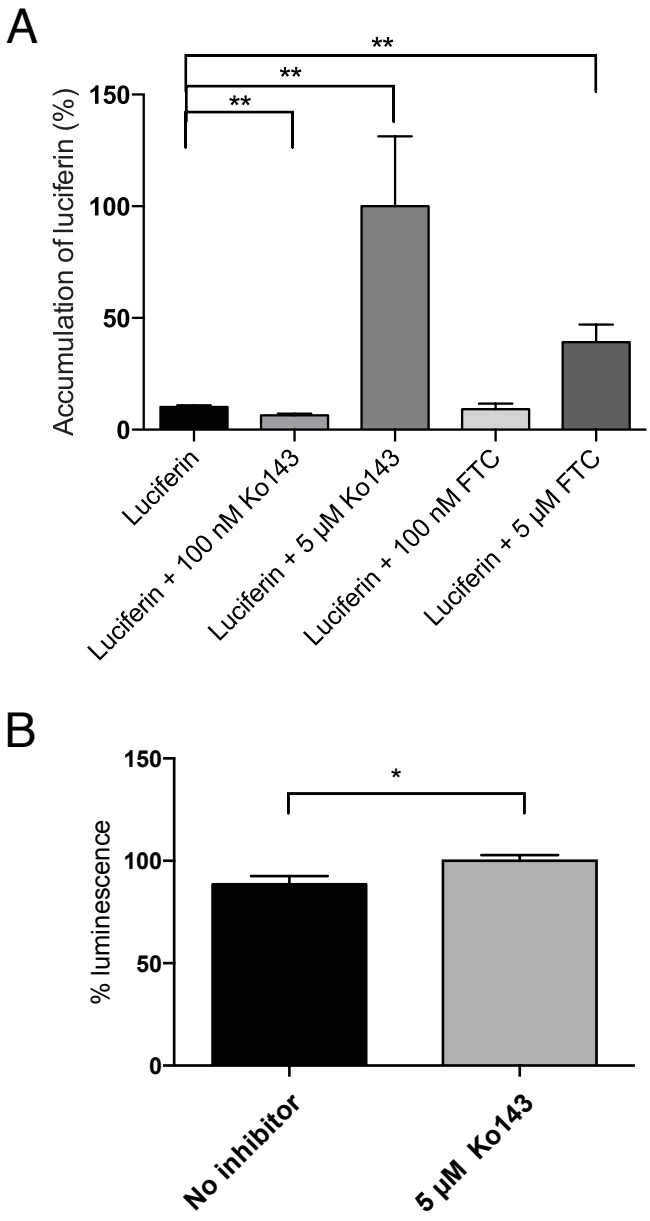

Figure S3. ABCG2 inhibition increases D-luciferin accumulation and bioluminescent signal in HVT cells. (A) D-luciferin (2mM) accumulation in HVT cells increases with ABCG2 inhibitors Ko143 (100nM, 5 μM) and fumitrogen C (FTC; 100 nM, 5 μM) measured by flow cytometry. (B) To measure the effect of ABCG2 on bioluminescence HVT cells were transiently transduced with a baculovirus (BacMam) containing firefly luciferase. Bioluminescence with and without 5 μM Ko143 is reported. All values are normalized to the 5 μM Ko143 condition. Data represent means ± SD of three experiments (*$p< 0.05$, **$p< 0.01$ by Student's t test).