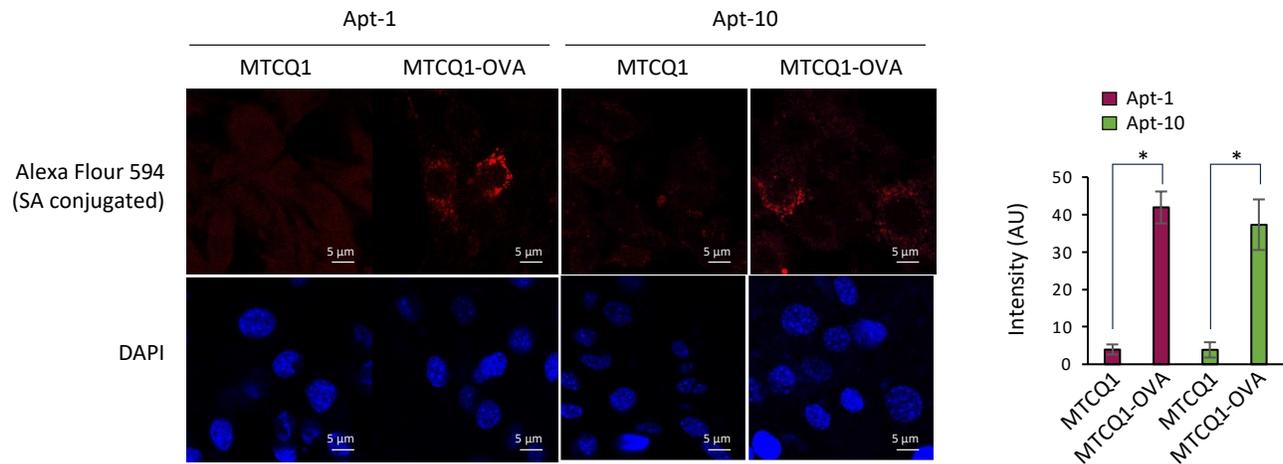


**Supplementary Figure 1. The distributions of the top 150 enriched aptamers in all 8 sequencing samples from conventional SELEX.** The number of aptamers identified in all and 6, 5, 4, 3, 2, or 1 out of 8 sequencing samples.



**Supplementary Figure 2. Apt-1 and Apt-10 selectively bind to MTCQ1-OVA but not wild-type MTCQ1 cells.** (A) Wild-type MTCQ1 and MTCQ1-OVA cells were incubated with biotin-conjugated Apt-1 and Apt-10, followed by immunostaining with Alexa Fluor 594<sup>TM</sup> conjugated streptavidin (upper panel) and nucleus staining with DAPI (lower panel). (63x magnification, scale bar 5 μm). (B) Quantification of the signal intensity derived from fluorescence-conjugated aptamers (arbitrary units, AU). Error bars represent the mean ± SEM of 3 independent experiments (\* = P < 0.0001, student's t-test).