



**Supplementary Figure S1. TMVs labeled with pHrodo only fluoresce in low pH environment.**

D2F2/E2 TMVs were labeled as described in methods. Unlabeled and pHrodo labeled TMVs were placed in FACS buffer at pH 7 or in FACS buffer at pH 4 with HCl. The pHrodo Deep Red fluorescence has an emission peak of 640 nm detected on the APC channel.