**Supplementary methods**

**Pull down assays**

*E.coli* cell pellets containing GST-Vps4 were resuspended and lysed using sonication and clarified using centrifugation at 30,000 x g at 4°C for 40’. Supernatant was applied to Glutathione Sepharose 4B (GE Healthcare) at 4°C for 60’. The supernatant was aspirated and the resin was washed with 5 x column volume of PBS.

The purified histidine-tagged chimera was incubated with resin bound GST-Vps4 in the presence and absence of ATP and Mg2+. The assays were washed with 3 x column volume of PBS. Vps4 and any associated proteins were removed from the resin with the addition of SDS-PAGE loading dye and boiling at 95°C for 5’.

**Western Blot**

Protein from the pulldown assays were separated using SDS-PAGE and transferred on to nitrocellulose membrane for 1hr at 100 V on ice. Membranes were blotted with TBST containing 5% BSA overnight. Blots were probed with either α-His6 antibody (BD Biosciences) or α-GST Tag monoclonal antibody (ThermoFisher) for at least 2 hours at 4°C. After washing, membranes were probed with α-mouse IgG, HRP-linked antibody (Cell Signalling Technologies) for 1 hour at 4°C and exposed on a Biorad chemidoc with EZ-ECL (Biological Industries).