

## Description of Additional Supplementary Files

**File Name:** Supplementary Movie 1

**Description:** Structure of the Fap2- ECD. The movie shows a fly-through of longitudinal sections of the density map, highlighting the triangular shaped groove that is complemented by the unstructured N-terminus.

**File Name:** Supplementary Movie 2

**Description:** Structure of the Fap2- ECD/hTIGIT-ECD complex. The movie shows a rotation, followed by a fly-through of longitudinal sections of the density map. Finally, the Fap2 and docked hTIGIT-ECD model appear in the map.

**File Name:** Supplementary Movie 3

**Description:** Representative MD simulation of the Fap2-ECD/TIGIT-ECD complex. The movie shows a simulation over 150 nsec of the best docking result from HADDOCK. Fap2-ECD is colored orange, hTIGIT-ECD is colored green.

**File Name:** Supplementary Movie 4

**Description:** Representative MD simulation of the Fap2-ECD/Gal-GalNAc-Thr complex. The movie shows a simulation over 150 nsec of the best docking pose from Autodock Vina. Gal-GalNAc-Thr is depicted gray, interacting residues of Fap2 are depicted violet.