



**Figure S1.** Structural basis for the interaction between Matrix putative NLS sequences to IMP $\alpha$ 3. **A** HeV M NLS1 peptide sequence displayed in grey box with resolved amino acids highlighted in magenta. Matrix NLS1 (magenta sticks) binds to IMP $\alpha$  (grey surface) at the major site. **B** Schematic of the interface between NLS1 (magenta) and IMP $\alpha$  (grey). HeV M K<sup>84</sup> binds to P2 site on IMP $\alpha$  (Gly145, Thr150, and Asp187) (highlighted red) with H-bonds and salt bridge interactions depicted. **C** The resolved amino acids of HeV M NLS1 (magenta sticks) are shown in the major binding site of IMP $\alpha$ .