**Protocol S1 Domain mapping by gel filtration**

To map the interaction domain of LidA with Rab1, the proteins of LidA(FL) and fragments, Rab1(FL, Q70L) were purified by affinity chromatography with N-terminal His-tag, then mixed protein solutions together at 4oC for 2 h, the protein concentration of Rab1 and LidA was at a molar ratio of 1:1. Afterwards, the protein mixtures were subject to size exclusion chromatography on a Superdex-200, monitored by UV absorption at 280 nm. The buffer of gel filtration containing 25 mM Tris-HCl (pH 8.0), 100 mM NaCl, and 3 mM DTT. Each aliquots of the peak fraction were subjected to SDS-PAGE which were visualized by Coomassie Brilliant Blue staining.