

## Description of Additional Supplementary Files

**Supplementary Data 1:** List of identified bona fide lysosomal proteins. Dataset enlisting identified bona fide lysosomal proteins in Lyso-IP samples (lysosomes). n = 3 biological replicates.

**Supplementary Data 2:** Statistics Proteomics and Lipidomics. Datasets showing metric changes for proteins or lipids respectively in GBA KO and GCase rescued samples. Datasets correspond to Fig. 5c-d and Supplementary Fig. 8a-b, respectively.

**Supplementary Data 3:** Lipidomics Raw Data compiled. Dataset comprising all relevant lipidomics data which is shown in Fig. 5d and Supplementary Fig. 8b.