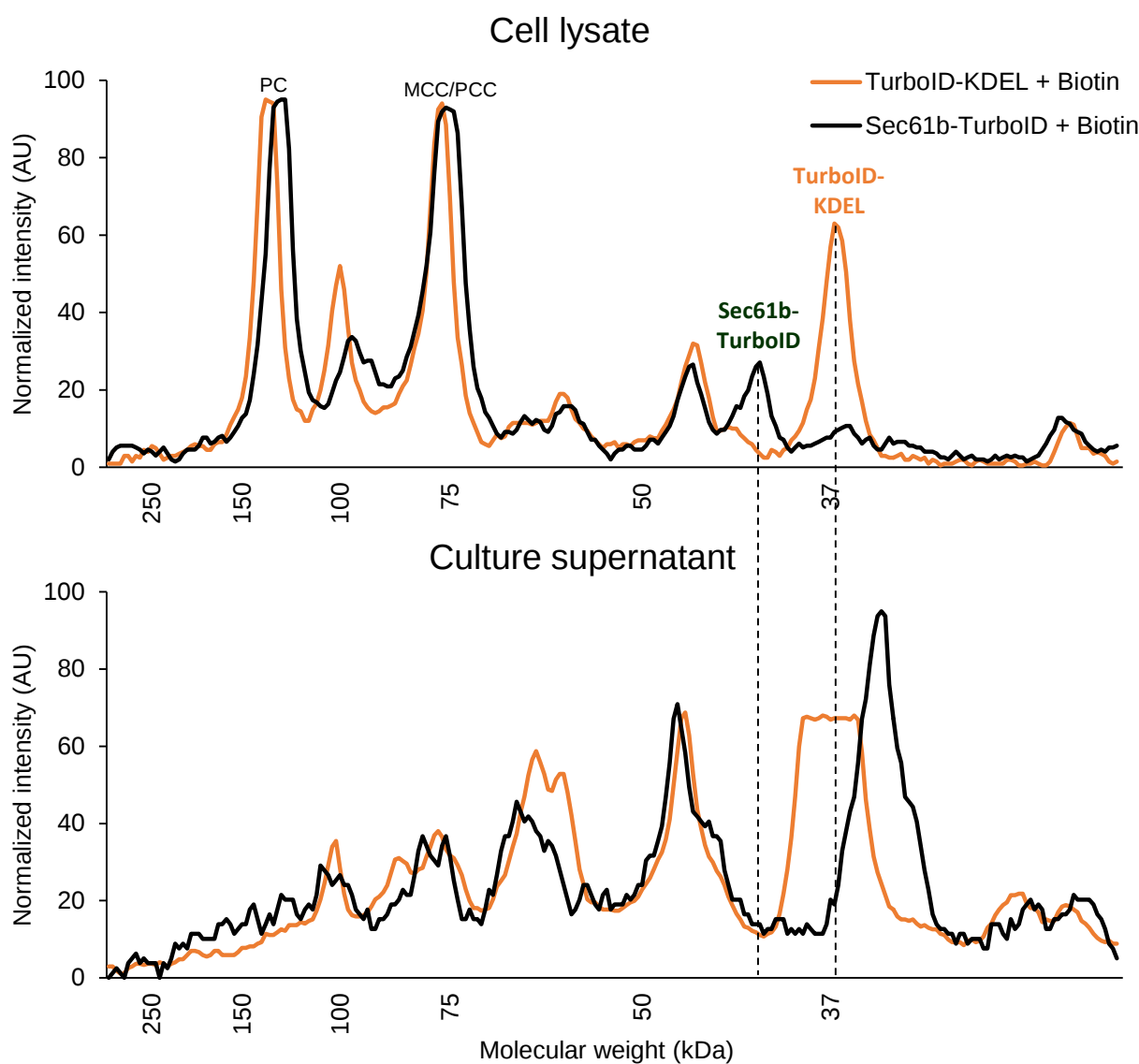
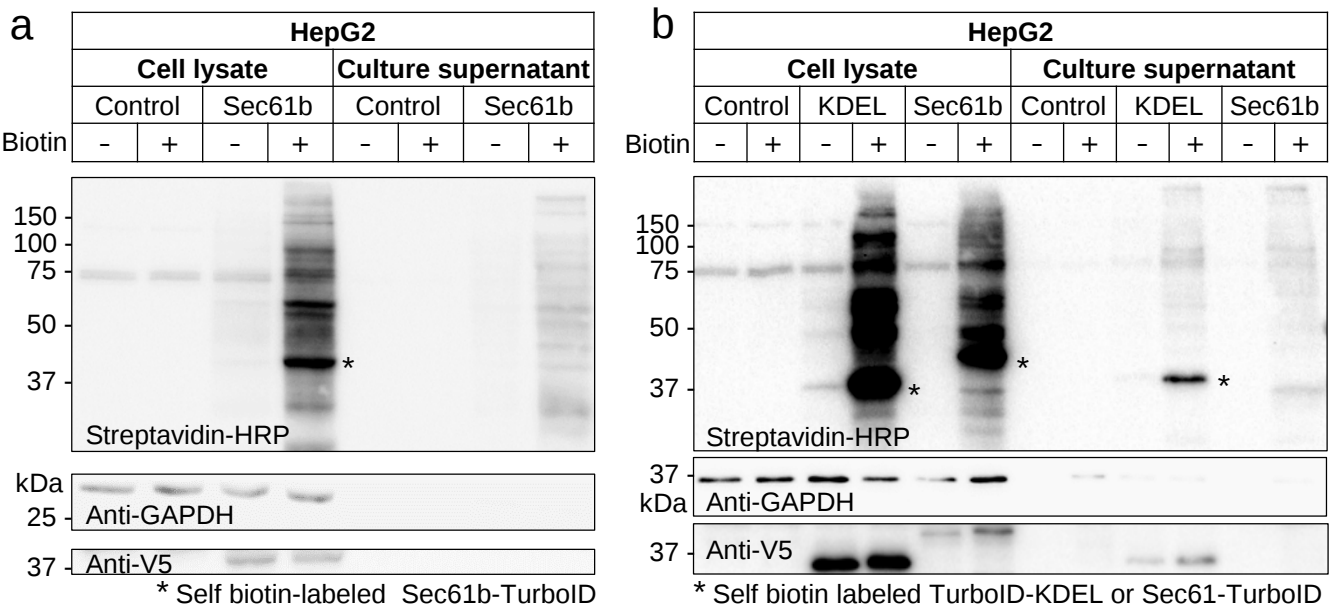


Kim et al., Supplementary Figure 1



Supplementary Fig. 1 Biotin-labeled protein profiles of cell lysates and culture supernatants from TurboID-KDEL or Sec61b-TurboID expressing cells. Line-scan analysis of biotin-labeled proteins detected by HRP-streptavidin in cell lysates and culture supernatants of NIH-3T3 cells transfected with TurboID-KDEL (orange) or Sec61b-TurboID (black) expression plasmids and treated with biotin. PC, Pyruvate carboxylase; MCC/PCC, Methylcrotonyl-CoA carboxylase/Propionyl-CoA carboxylase.

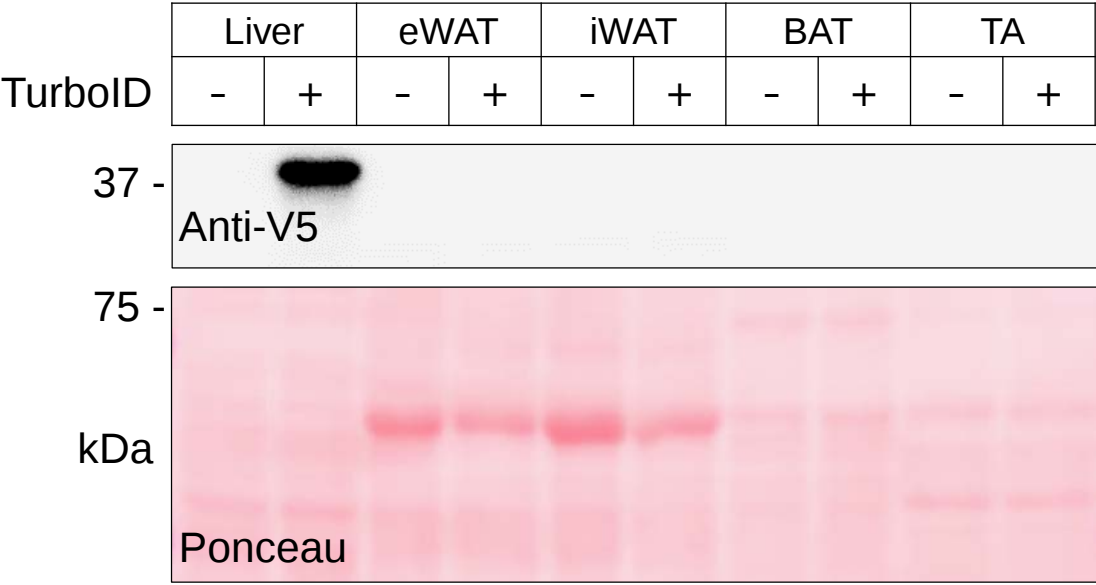
Kim et al., Supplementary Figure 2



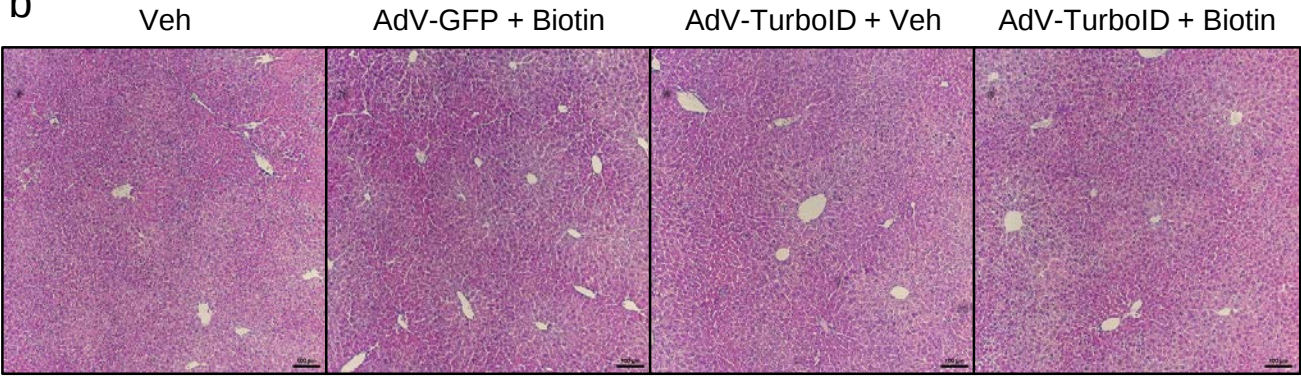
Supplementary Fig. 2 Self-secretion of TurboID-KDEL in HepG2 cells. **a**, Western blots for biotin-labeled proteins (Streptavidin-HRP) and Sec61b-TurboID (Anti-V5) in cell lysates or culture supernatants of HepG2 cells transfected with GFP (Control) or Sec61b-TurboID (Sec61b) expression plasmids. **b**, Western blots for biotin-labeled proteins (Streptavidin-HRP) and TurboID (Anti-V5) in cell lysates or culture supernatants of HepG2 cells transfected with GFP (Control), TurboID-KDEL (KDEL) or Sec61b-TurboID (Sec61b) expression plasmids. Anti-GAPDH is a loading control. Asterisk indicates self biotin-labeled TurboID-KDEL or Sec61-TurboID.

Kim et al., Supplementary Figure 3

a

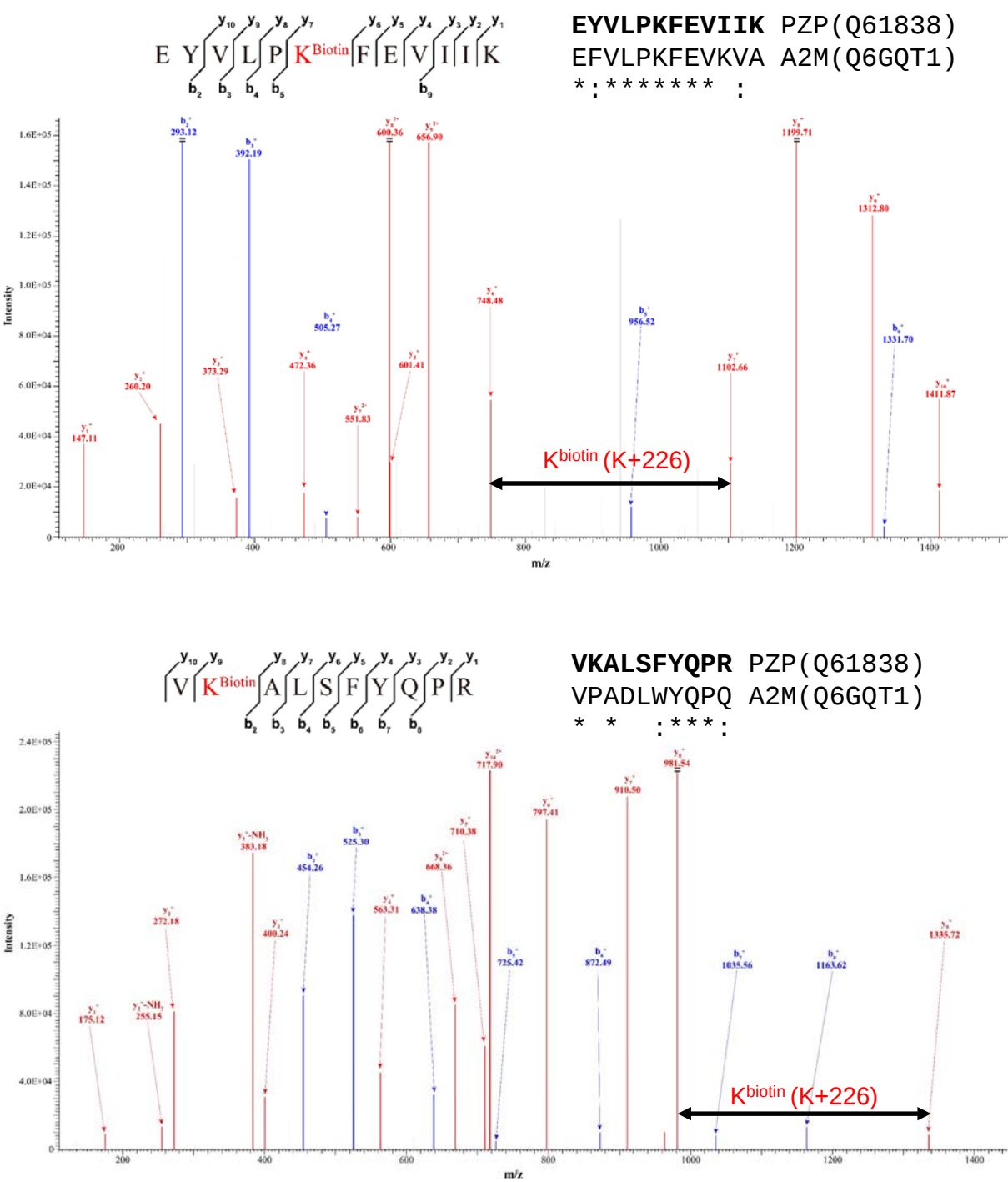


b



Supplementary Fig. 3 Validation of liver-specific Sec61-TurboID expression and liver histology. **a**, Western blot for Sec61b-TurboID (Ant-V5) in liver and other tissues. eWAT: epididymal White Adipose Tissue, iWAT: inguinal White Adipose Tissue, BAT: Brown Adipose Tissue, TA: Tibialis Anterior muscle. **b**, Hematoxylin and Eosin staining of liver tissues from mice with indicated treatment. Vehicle only (Veh), GFP expressing adenovirus (AdV-GFP), Sec61b-TurboID expressing adenovirus (AdV-TurboID).

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Supplementary Fig. 4 Representative tandem mass spectrum of biotinylated PZP peptides.

Mass of the biotinylated lysine residue is 354 Da (K+226 Da). Arrow represents the mass shift of the biotinylated lysine residue from the biotinylated PZP peptide (Q61838).