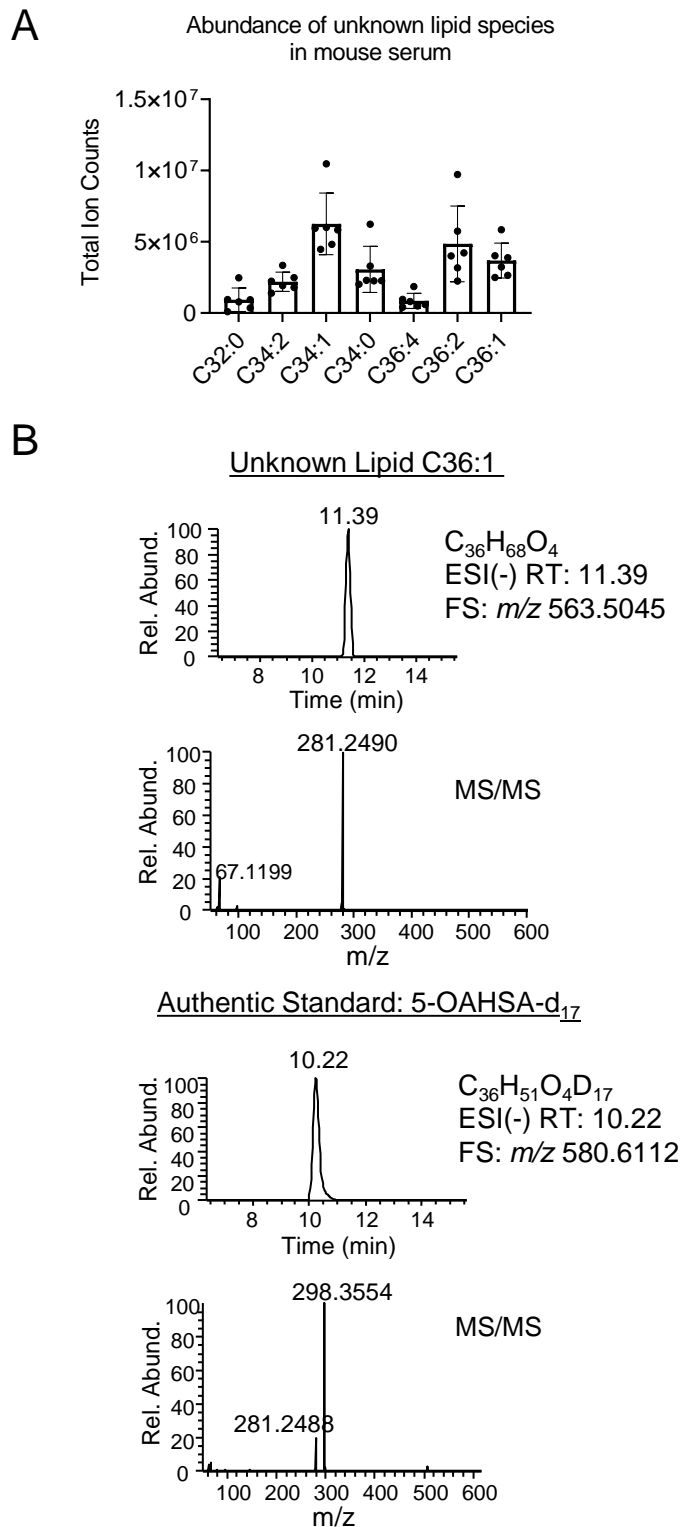
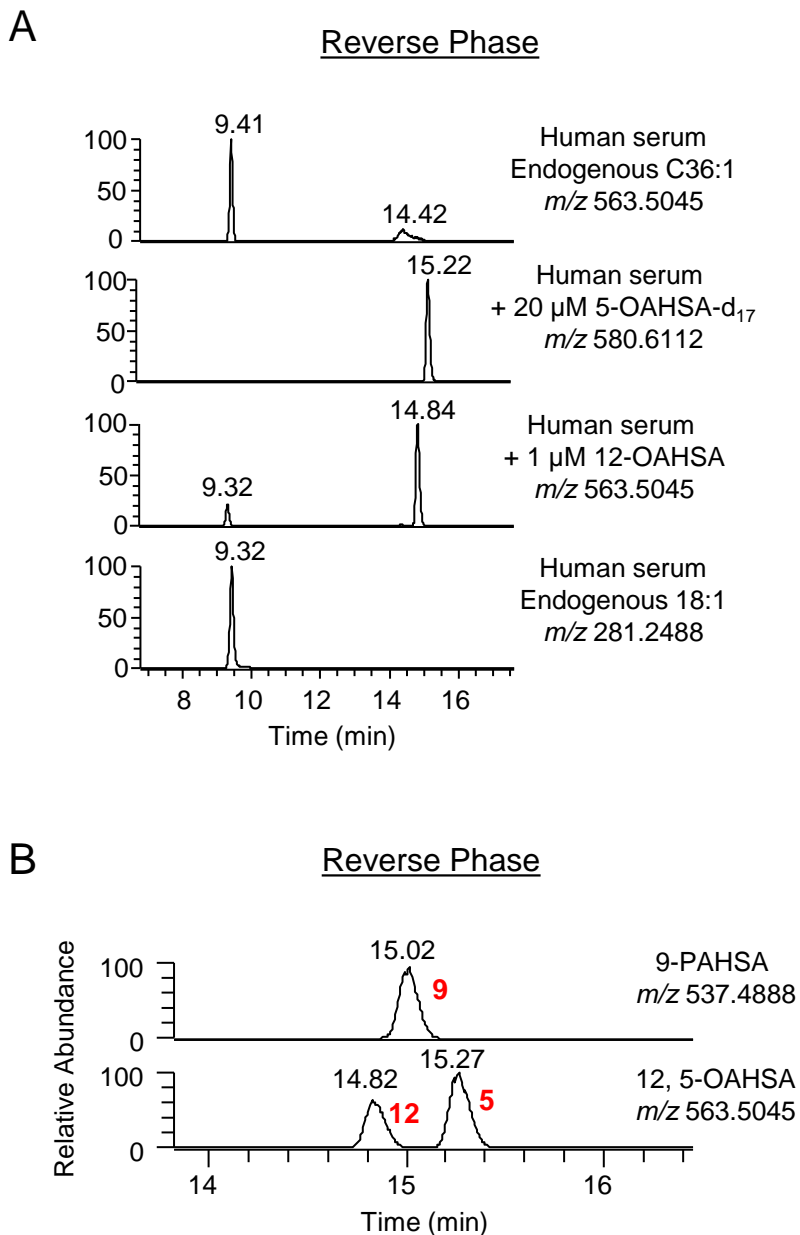


Supplemental Figure 1. (A-D) Representative extracted ion chromatograms (XIC) of unknown m/z lipid signal detected in Full MS mode (± 5 ppm) and their MS/MS spectra.



Supplemental Figure 2. Validation of unknown lipid species. (A) Detected abundance of unknown lipid species in mouse serum after a 6h fast. **(B)** XIC (± 5 ppm) and MS/MS spectra of putative OAHSA signal and authentic 5-OAHSA- d_{17} .



Supplemental Figure 3. Detected lipid signals on reverse phase

chromatography. (A) XICs (± 5 ppm) corresponding to $m/z = 563.5045$ in human serum, $m/z = 580.6112$ in human serum spiked with 20 μ M labeled 5-OAHSA-d₁₇, $m/z = 563.5045$ in human serum spiked with 1 μ M exogenous 12-OAHSA or $m/z = 281.2486$ (endogenous FFA 18:1) in human serum. **(B)** XICs (± 5 ppm) of authentic FAHFA regioisomers dissolved in AcN/H₂O. Red numbers denote regioisomer.