

**Supplementary Table 4: Functions of Lipids Detected in Fetal Sheep Cerebral
White Matter by MALDI-MS, Negative Ion Mode**

Lipid Class	Functions
Phosphatidic Acid (PA) (54)	-Structural component of cell membranes -Helps mediate signaling through cell growth, proliferation, and reproduction pathways
Phosphatidylethanolamine (PE) (55)	-Inner leaflet of plasma membrane
Phosphatidylglycerol (PG) (56)	-Cell membrane homeostasis
Phosphatidylinositol (PI) (34)	-Membrane structural lipid -Substrate for lipid kinases that phosphorylate hydroxyl groups
Plasmalogen (PlsEtn) (57)	-Mediates vesicle fusion -Component of lipid rafts
Phosphatidylserine (PS) (39)	-Structural lipid-inner leaflet of plasma membrane -Myelin membrane component -Mediates signaling through Akt -Signals apoptosis when on the membrane surface
Lactosylceramide (LacCer) (58)	-Stabilizing structural membrane lipid
Sulfatides (ST) (27)	-Myelin, structural lipid -Functional role in myelination