**Supplementary Table 10. Pathways altered in** **Alzheimer's****disease****identified in brain tissue, CSF, plasma and serum**

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| **Pathway Name** | **Biosample type** |
| Glycolysis or Gluconeogenesis | CSF |
| Aldosterone biosynthesis and metabolism | CSF |
| Aspartate and aspargine metabolism | CSF |
| Cholesterol and sphingolipids transport/transport from Golgi | CSF |
| Cortisol BS from cholesterol | CSF |
| FXR-regulated cholesterol and bile acid cellular transport | CSF |
| Glycolysis and gluconeogenesis | CSF |
| HETE and HPETE biosynthesis and metabolism | CSF |
| Neurophysiological process\_Role of CDK5 in presynaptic signaling | CSF |
| Nicotine MB in liver | CSF |
| Nicotine metabolism in liver | CSF |
| Phosphatidylinositol metabolism | CSF |
| Prostaglandin 2 biosynthesis and metabolism | CSF |
| Regulation of CFTR gating (nomal and CF) | CSF |
| Role of Diethylhexyl Phthalate and Tributyltin in fat cell differentiation | CSF |
| Role of Diethylhexyl Phthalate and Tributyltin in fat differentiation | CSF |
| Saturated fatty acids metabolism | CSF |
| Transcription role of VDR in regulation of genes involved in osteoporosis | CSF |
| Tyrosine metabolism p 1(dopamine) | CSF |
| alpha-Linolenic acid metabolism | plasma |
| D-Arginine and D-ornithine metabolism | plasma |
| D-Glutamine and D-glutamate metabolism | plasma |
| Glycerophospholipid metabolism | plasma |
| Acetylcholine biosynthesis and metabolism | plasma |
| aminoacyl-tRNA biosynthesis in cytoplasm | plasma |
| Aminoacyl-tRNA biosynthesis in mitochondria | plasma |
| Aminoacyl-tRNA biosynthesis in mitochondrion | plasma |
| Arginine metabolism | plasma |
| Ascorbate metabolism | plasma |
| Bile Acid Biosynthesis | plasma |
| Catecholamine metabolism | plasma |
| CHOL & Sphingolipid transport | plasma |
| CHOL sphingolipid transport | plasma |
| Cholesterol metabolism | plasma |
| Cortisol biosynthesis from cholesterol | plasma |
| Development Activation of astroglial cells proliferation by ACM3 | plasma |
| Development\_ACM2 and ACM4 activation of ERK | plasma |
| Development\_Activation of astroglia cell proliferation by ACM3 | plasma |
| Fatty Acid Omega Oxidation | plasma |
| FXR-regulated cholesterol and bile acid transport | plasma |
| GABA biosynthesis& metabolism | plasma |
| Glycolysis & GNG | plasma |
| Glycolysis GNG(short map) | plasma |
| Histidine-glutamate-glutamine metabolism | plasma |
| L-Arginine metabolism | plasma |
| lipid metabolism | plasma |
| Lysine metabolism | plasma |
| Mechanism of action of DGaT1 in obesity and diabetes mellitus, type II | plasma |
| melatonin signaling | plasma |
| Muscle contraction\_nNOS Signaling in Skeletal Muscle | plasma |
| NAE & PL A2 pathway | plasma |
| neurophysiological process\_ | plasma |
| Neurophysiological process\_ ACM1 and ACM2 in neuronal… | plasma |
| Neurophysiological process\_GABAergic neurotransmission | plasma |
| Niacin-HDL metabolism | plasma |
| Nicotine signaling in GABAergic neurons | plasma |
| PG 2 biosynthesis & metabolism | plasma |
| Phospholipid metabolism | plasma |
| Plasmalogen biosynthesis | plasma |
| Polyamine metabolism | plasma |
| Proline metabolism | plasma |
| prostaglandin 2 biosynthesis and metabolism | plasma |
| Regulation of lipid MB FXR-dependent negative-feedback regulation of bile acid concentration | plasma |
| Regulation of lipid metabolism | plasma |
| Role of VDR in regulation of genes involved in osteoporosis | plasma |
| Sat fatty acid biosynthesis | plasma |
| saturated fatty acid metabolism | plasma |
| Serotonin modulation of dopamine release in nicotine addiction | plasma |
| Transport ACM3 in salivary glands | plasma |
| Transport of IC CHOL | plasma |
| Triacylglycerol biosynthesis in obesity and diabetes mellitus, type II | plasma |
| Triacylglycerol metabolism | plasma |
| Tyrosine metabolism | plasma |
| UMP biosynthesis | plasma |
| Vitamin d2 metabolism | plasma |
| Vitamin D3 metabolic C-23 and C-24 pathways | plasma |
| Pentose phosphate pathway | serum |
| Fatty acid biosynthesis | serum |
| arginineand proline metabolism | serum |
| histidine metabolism | serum |
| pyruvatemetabolism | serum |
| Phenylalanine, tyrosine and tryptophan biosynthesis | CSF and plasma |
| Pyrimidine metabolism | CSF and plasma |
| Vitamin B6 metabolism | CSF and plasma |
| (L)-Arginine metabolism | CSF and plasma |
| Bile acid metabolism | CSF and plasma |
| Cholesterol and sphingolipids transport | CSF and plasma |
| cortisone biosynthesis and metabolism | CSF and plasma |
| Intracellular cholesterol transport | CSF and plasma |
| Regulation of CFTR gating | CSF and plasma |
| Urea cycle | CSF and plasma |
| Linoleic acid metabolism | serum and plasma |
| tryptophan metabolism | serum and plasma |
| Pyruvate metabolism | CSF and serum |
| Biotin metabolism | brain, CSF, plasma |
| Phenylalanine metabolism | CSF, plasma, serum |
| Synthesis and degradation of ketone bodies | CSF, plasma, serum |
| Alanine, aspartate and glutamate metabolism | brain, CSF, plasma, serum |
| TCA cycle | brain, CSF, plasma, serum |
| Purine metabolism | brain, CSF, plasma, serum |
| Arginine and proline metabolism | brain, CSF, plasma, serum |
| Cysteine and methionine metabolism | brain, CSF, plasma, serum |
| Glycine, serine and threonine metabolism | brain, CSF, plasma, serum |
| Pantothenate and CoA biosynthesis | brain, CSF, plasma, serum |
| Aminoacyl-tRNA biosynthesis | brain, CSF, plasma, serum |
| Nitrogen metabolism | brain, CSF, plasma, serum |
| Glutathione metabolism | brain, CSF, plasma, serum |
| beta-Alanine metabolism | brain, CSF, plasma, serum |
| Valine, leucine and isoleucine biosynthesis | brain, CSF, plasma, serum |
| Sphingolipid metabolism | brain, CSF, plasma, serum |
| Butanoate metabolism | brain, CSF, plasma, serum |
| Propanoate metabolism | brain, CSF, plasma, serum |