

				Cluster
				Direction
*			*	Metabolism of polyamines
*			*	Metabolism of nitric oxide NOS3 activation and regulation
***			***	Metabolism of amino acids and derivatives
****			****	Glutamate and glutamine metabolism
**			**	Glycogen metabolism
				Metabolism of nucleotides
				Metabolism of ingested semet sec mesec into H2SE
				Metabolism of folate and pterines
				Metabolism of fat soluble vitamins
				Metabolism of cofactors
				Metabolism of carbohydrates
				Metabolism of angiotensinogen to angiotensins
				Metabolism of amine derived hormones
				Metabolic disorders of biological oxidation enzymes
				Linoleic acid LA metabolism
				Ketone body metabolism
				Keratan sulfate keratin metabolism
				Integration of energy metabolism
				Inositol phosphate metabolism
				Hyaluronan metabolism
				Heparan sulfate heparin hs gag metabolism
				Glyoxylate metabolism and glycine degradation
				Glycosphingolipid metabolism
				Glycosaminoglycan metabolism
				Glucose metabolism
				Glucagon signaling in metabolic regulation
				Fructose metabolism
				Foxo mediated transcription of oxidative stress metabolic and neuronal genes
				Fatty acid metabolism
				Diseases of metabolism
				Diseases of carbohydrate metabolism
				Diseases associated with surfactant metabolism
				Diseases associated with glycosaminoglycan metabolism
				Defects in vitamin and cofactor metabolism
				Defects in cobalamin B12 metabolism
				Defects in biotin btn metabolism
				Defective csf2rb causes pulmonary surfactant metabolism dysfunction 5 smdp5
				Creatine metabolism
				Cobalamin CBL vitamin B12 transport and metabolism
				Class C3 metabotropic glutamate pheromone receptors
				Chrebp activates metabolic gene expression
				Chondroitin sulfate dermatan sulfate metabolism
				Carnitine metabolism
				Biotin transport and metabolism
				Bile acid and bile salt metabolism
				Aspartate and asparagine metabolism
				Arachidonic acid metabolism
				Alpha linolenic OMEGA3 and linoleic OMEGA6 acid metabolism
				Abacavir metabolism
				Abacavir transport and metabolism

**RRA**

no significant

significant

  

**P Value**

\* < 0.05

\*\* < 0.01

\*\*\* < 0.001

\*\*\*\* < 0.0001

  

**Cluster**

OAT– Fib

OAT+ Fib

  

**Direction**

down

up