

	Cluster A	Cluster B	Cluster C	Cluster D
Cellular componets	Involved in the cell adhesion (<i>actin, adherence junction, lamellipodium, actin filament bundle, tubulin</i>)	Involved in the protein production and metabolism (<i>cytosolic proteasome complex, protein kinase binding, ribosome, proteasome, phosphoprotein binding, protein folding chaperone</i>)	Nucleus (<i>nuclear chromosome, polytene chromosome chromocenter, pericentric heterochromatin, nuclear SCF ubiquitin ligase complex</i>)	Extracellular region and Golgi (<i>Golgi trans cisterna, Golgi membrane</i>)
	Parts of the endomembrane system (<i>vesicle, early endosome lumen</i>)	Associated with the surface membrane (<i>secretory granule, ficolin-1-rich granule, extracellular region, cytoplasmic side of membrane</i>)	Membrane (<i>prospore membrane, membrane, chromocenter, intracellular immature spore</i>)	
			Cilium (<i>sperm fibrous sheath</i>)	
Molecular function	Binding (<i>amide binding, peptide binding, collagen binding</i>)		Sugar metabolism (<i>beta-galactoside alpha-2,6-sialyltransferase</i>)	Sugar metabolism (<i>beta-galactoside alpha-2,6-sialyltransferase</i>)
	Metabolism of different substrates (<i>peptidase activity, hexokinase activity, transferase activity, transferring glycosyl groups</i>)		Calcium metabolism and protein kinase C activity (<i>CDP-diacylglycerol-inositol 3-phosphatidyltransferase activity, calcium-dependent cysteine-type endopeptidase activity, calcium-independent protein kinase C activity, calcium ion binding</i>)	Transcription regulation, protein kinase activity (<i>cyclic nucleotide-dependent protein kinase activity, cGMP-dependent protein kinase activity</i>)
	Cysteine peptidase activity (<i>cathepsin L, papain family cysteine protease, cysteine-type endopeptidase activity</i>)		Glycolysis (<i>phosphoglycerate mutase activity</i>)	Signaling and binding (<i>chemoattractant activity, signaling receptor regulator activity, SMAD binding</i>)
	Immunity related factors (<i>angiotensin receptor activity, interleukin-6</i>)		Signal transduction (<i>protein serine/threonine kinase activity, signaling receptor binding</i>)	

	<i>receptor binding, antigen processing and presentation)</i>			
	KEGG pathways involved in the host invasion (<i>phagosome, apoptosis, lysosome, bacterial invasion of epithelial cells, autophagy-animal, fc gamma R-mediated phagocytosis, fluid shear stress and atherosclerosis</i>)		Fatty acid metabolism (<i>carnitine:acyl carnitine antiporter activity</i>)	
			Immunity/ immunoregulation (<i>phenylpyruvate tautomerase activity</i>)	
Biological processes			Regulation (<i>regulation of cytokine production involved in immune response, regulation of peptide secretion, regulation of generation of precursor metabolites and energy</i>)	Immunoregulation (<i>macrophage apoptotic process, inflammatory cell apoptotic process, humoral immune response, mononuclear cell proliferation, myeloid cell apoptotic process, leukocyte apoptotic process</i>)
			Homeostasis (<i>carbohydrate homeostasis, glucose homeostasis, positive chemotaxis</i>)	Metabolic process (<i>N-acetylneuraminate metabolic process, oligosaccharide metabolic process, peptidyl-asparagine modification, sialylation</i>)