

Table S9. Significant pathways in Data-1 and Data-2 (low, medium, and high concentrations) and the overlap between various combinations.

Population	Total	Pathways
Data-1, Data-2 (low, high) & Data-2 (low, medium)	2	ILK Signaling
		Neuroinflammation Signaling Pathway
Data-2 (low, high) & Data-2 (low, medium)	10	TREM1 Signaling
		IL-8 Signaling
		Communication between Innate and Adaptive Immune Cells
		MIF Regulation of Innate Immunity
		Osteoarthritis Pathway
		Airway Pathology in Chronic Obstructive Pulmonary Disease
		CDK5 Signaling
		Gai Signaling
		Inhibition of Matrix Metalloproteases
		Atherosclerosis Signaling
Data-2 (low, high) & Data-2 (medium, high)	1	Methylglyoxal Degradation I
Data-1 & Data-2 (low, high)	6	GDNF Family Ligand-Receptor Interactions
		HOTAIR Regulatory Pathway
		Fc Epsilon RI Signaling
		PDGF Signaling
		VEGF Family Ligand-Receptor Interactions
		Phagosome Formation
Data-1 & Data-2 (low, medium)	3	Thyroid Cancer Signaling
		Caveolar-mediated Endocytosis Signaling
		Macropinocytosis Signaling
Data-1 & Data-2 (medium, high)	4	Serine Biosynthesis
		Phagosome Maturation
		EIF2 Signaling
		Iron homeostasis signaling pathway
Data-2 (low, high)	12	Neuroprotective Role of THOP1 in Alzheimer's Disease
		Hematopoiesis from Pluripotent Stem Cells
		Cell Cycle: G2/M DNA Damage Checkpoint Regulation
		LXR/RXR Activation
		Phospholipase C Signaling
		Eicosanoid Signaling
		Anandamide Degradation
		White Adipose Tissue Browning Pathway

		Sirtuin Signaling Pathway
		Acute Phase Response Signaling
		p38 MAPK Signaling
		MIF-mediated Glucocorticoid Regulation
Data-2 (low, medium)	20	ERK5 Signaling
		Pathogenesis of Multiple Sclerosis
		G-Protein Coupled Receptor Signaling
		Differential Regulation of Cytokine Production in Intestinal Epithelial Cells by IL-17A and IL-17F
		Role of IL-17A in Psoriasis
		Differential Regulation of Cytokine Production in Macrophages and T Helper Cells by IL-17A and IL-17F
		IL-17A Signaling in Gastric Cells
		Granulocyte Adhesion and Diapedesis
		Relaxin Signaling
		Role of IL-17F in Allergic Inflammatory Airway Diseases
		Bladder Cancer Signaling
		Breast Cancer Regulation by Stathmin1
		Role of Hypercytokinemia/hyperchemokine in the Pathogenesis of Influenza
		Aryl Hydrocarbon Receptor Signaling
		p53 Signaling
		Agranulocyte Adhesion and Diapedesis
		PI3K/AKT Signaling
		Role of IL-17A in Arthritis
		IGF-1 Signaling
		Glucocorticoid Receptor Signaling
Data-2 (medium, high)	11	Superpathway of Serine and Glycine Biosynthesis I
		Coronavirus Pathogenesis Pathway
		Remodeling of Epithelial Adherens Junctions
		mTOR Signaling
		Role of Pattern Recognition Receptors in Recognition of Bacteria and Viruses
		Sertoli Cell-Sertoli Cell Junction Signaling
		Germ Cell-Sertoli Cell Junction Signaling
		Phenylalanine Degradation I (Aerobic)

	$\gamma$ -glutamyl Cycle
	Epithelial Adherens Junction Signaling
	Regulation of eIF4 and p70S6K Signaling
	Reelin Signaling in Neurons
	Molecular Mechanisms of Cancer
	fMLP Signaling in Neutrophils
	NF- $\kappa$ B Activation by Viruses
	Synaptic Long Term Depression
	Gap Junction Signaling
	PKC $\theta$ Signaling in T Lymphocytes
	Role of NFAT in Regulation of the Immune Response
	LPS-stimulated MAPK Signaling
	Glioblastoma Multiforme Signaling
	Glycogen Degradation III
	Insulin Secretion Signaling Pathway
	Renin-Angiotensin Signaling
	IL-3 Signaling
	Leptin Signaling in Obesity
	Neurotrophin/TRK Signaling
	Role of Tissue Factor in Cancer
	Glioma Signaling
	ErbB Signaling
	Semaphorin Neuronal Repulsive Signaling Pathway
	Thrombopoietin Signaling
	PI3K Signaling in B Lymphocytes
	IL-9 Signaling
	Adrenomedullin signaling pathway
	Angiopoietin Signaling
	Role of JAK1 and JAK3 in $\gamma$ c Cytokine Signaling
	iCOS-iCOSL Signaling in T Helper Cells
	Myo-inositol Biosynthesis
	Neuropathic Pain Signaling In Dorsal Horn Neurons
	Leukocyte Extravasation Signaling
	Apelin Cardiomyocyte Signaling Pathway
	T Cell Exhaustion Signaling Pathway
	CD40 Signaling

Data-1

97

CTLA4 Signaling in Cytotoxic T Lymphocytes
Factors Promoting Cardiogenesis in Vertebrates
2-ketoglutarate Dehydrogenase Complex
Neuregulin Signaling
Lymphotoxin $\beta$ Receptor Signaling
Adipogenesis pathway
Heparan Sulfate Biosynthesis
Non-Small Cell Lung Cancer Signaling
GP6 Signaling Pathway
NF- $\kappa$ B Signaling
Role of p14/p19ARF in Tumor Suppression
Synaptic Long Term Potentiation
G $\alpha$ q Signaling
Th2 Pathway
14-3-3-mediated Signaling
CD28 Signaling in T Helper Cells
UVB-Induced MAPK Signaling
Hepatic Fibrosis Signaling Pathway
ErbB4 Signaling
G Protein Signaling Mediated by Tubby
Heparan Sulfate Biosynthesis (Late Stages)
Amyloid Processing
Th1 and Th2 Activation Pathway
Coenzyme A Biosynthesis
Synaptogenesis Signaling Pathway
Huntington's Disease Signaling
CCR3 Signaling in Eosinophils
eNOS Signaling
P2Y Purigenic Receptor Signaling Pathway
Prolactin Signaling
Tec Kinase Signaling
RAR Activation
VEGF Signaling
Virus Entry via Endocytic Pathways
Endocannabinoid Neuronal Synapse Pathway
p70S6K Signaling

IL-4 Signaling
Nitric Oxide Signaling in the Cardiovascular System
HIPPO signaling
Aldosterone Signaling in Epithelial Cells
Small Cell Lung Cancer Signaling
Human Embryonic Stem Cell Pluripotency
Erythropoietin Signaling
Sulfate Activation for Sulfonation
CREB Signaling in Neurons
Thrombin Signaling
Type II Diabetes Mellitus Signaling
Dopamine-DARPP32 Feedback in cAMP Signaling
Growth Hormone Signaling
FGF Signaling
HGF Signaling
HER-2 Signaling in Breast Cancer
Glioma Invasiveness Signaling
Gustation Pathway
EGF Signaling
IL-17 Signaling
Axonal Guidance Signaling
Endothelin-1 Signaling
Calcium-induced T Lymphocyte Apoptosis
SPINK1 General Cancer Pathway
T Cell Receptor Signaling
Role of NANOG in Mammalian Embryonic Stem Cell Pluripotency
NRF2-mediated Oxidative Stress Response
AMPK Signaling