

Supplemental Table 1: GSEA results using the Reactome database. The normalized enrichment score (NES) characterizes the up-/downregulation and the p-value is the adjusted p-value using the Benjamini-Hochberg criterion.

ID	Description	NES	p-value
R-HSA-1474244	Extracellular matrix organization	-1.729	0.037
R-HSA-3000178	ECM proteoglycans	-1.921	0.037
R-HSA-111885	Opioid Signalling	-1.867	0.037
R-HSA-6809371	Formation of the cornified envelope	2.144	0.037
R-HSA-5368287	Mitochondrial translation	1.936	0.037
R-HSA-5389840	Mitochondrial translation elongation	1.948	0.037
R-HSA-5368286	Mitochondrial translation initiation	1.942	0.037
R-HSA-6805567	Keratinization	2.173	0.037
R-HSA-381753	Olfactory Signaling Pathway	-1.785	0.052
R-HSA-5083625	Defective GALNT3 causes familial hyperphosphatemic tumoral calcinosis (HFTC)	1.995	0.053
R-HSA-5419276	Mitochondrial translation termination	1.904	0.053
R-HSA-3000171	Non-integrin membrane-ECM interactions	-1.867	0.056
R-HSA-8866910	TFAP2 (AP-2) family regulates transcription of growth factors and their receptors	-1.872	0.056
R-HSA-72312	rRNA processing	1.808	0.066
R-HSA-375276	Peptide ligand-binding receptors	1.757	0.076
R-HSA-6791226	Major pathway of rRNA processing in the nucleolus and cytosol	1.745	0.076
R-HSA-5083636	Defective GALNT12 causes colorectal cancer 1 (CRCS1)	1.966	0.079
R-HSA-8948216	Collagen chain trimerization	-1.820	0.079
R-HSA-8868773	rRNA processing in the nucleus and cytosol	1.785	0.079
R-HSA-72766	Translation	1.655	0.079
R-HSA-445355	Smooth Muscle Contraction	-1.832	0.079
R-HSA-72203	Processing of Capped Intron-Containing Pre-mRNA	1.680	0.085
R-HSA-112314	Neurotransmitter receptors and postsynaptic signal transmission	-1.634	0.086
R-HSA-1650814	Collagen biosynthesis and modifying enzymes	-1.725	0.086
R-HSA-72172	mRNA Splicing	1.749	0.086
R-HSA-73854	RNA Polymerase I Promoter Clearance	1.873	0.090
R-HSA-1442490	Collagen degradation	-1.745	0.096