

	Term	Adjusted P-value	Genes
PanCancer			
BCR	Epithelial Mesenchymal Transition	>0.001	<i>COL1A1; SFRP4; COL3A1; COL1A2; COL5A2; INHBA</i>
	UV Response Dn	>0.001	<i>COL1A1; COL3A1; COL1A2; COL5A2</i>
	Angiogenesis	0.0003	<i>COL3A1; COL5A2</i>
	Myogenesis	0.008	<i>COL1A1; COL3A1</i>
Immune Profiling			
BCR	Angiogenesis	0.06	<i>COL3A1</i>
	TGF-beta Signaling	0.06	<i>ENG</i>
	UV Response Dn	0.06	<i>COL3A1</i>
	IL-2/STAT5 Signaling	0.06	<i>ICOS</i>
	Myogenesis	0.06	<i>COL3A1</i>
	KRAS Signaling Up	0.06	<i>ENG</i>
	Interferon Gamma Response	0.06	<i>IRF5</i>
	Apical Junction	0.06	<i>SYK</i>
	Estrogen Response Late	0.06	<i>CXCL14</i>
	Epithelial Mesenchymal Transition	0.06	<i>COL3A1</i>
CAPRA-S	Angiogenesis	0.06	<i>NRP1; COL3A1</i>
	Hedgehog Signaling	0.001	<i>NRP1; THY1</i>
	Epithelial Mesenchymal Transition	0.001	<i>COL3A1; FN1; THY1</i>
	Inflammatory Response	0.001	<i>MSR1; CXCL10; CD14</i>
	IL-6/JAK/STAT3 Signaling	0.005	<i>CXCL10; CD14</i>
	UV Response Dn	0.01	<i>NRP1; COL3A1</i>
	IL-2/STAT5 Signaling	0.01	<i>NRP1; CXCL10</i>
	Allograft Rejection	0.01	<i>HLA-DRA; THY1</i>
	KRAS Signaling Up	0.01	<i>NRP1; CXCL10</i>

Supplementary Table S2