

Supplementary Table S2. Spatial module gene sets used for spatial transcriptomic scoring.

The table lists the predefined gene sets or score components used to calculate C1-like, C3-like, MIF, receptor, ECM, integrin, adhesion/ECM and ECM-integrin context scores.

category	name	genes_or_score_components	role_or_note
spatial_module	C1-like score	CXCL12; RBP1; IGFBP3; CYGB; FABP4; DCN	C1-like fibroblast-stellate module
spatial_module	C3-like score	POSTN; CTHRC1; COL1A1; COL1A2; COL3A1; COL6A1; COL6A2; FN1; THBS2	Activated-matrix fibroblast module
spatial_module	MIF ligand score	MIF	MIF ligand module
spatial_module	MIF receptor score	CD74; CXCR4	CD74/CXCR4 receptor module
spatial_module	ECM ligand score	COL1A1; COL1A2; COL6A1; COL6A2; FN1; SPP1	ECM ligand module
spatial_module	Integrin receptor score	ITGA1; ITGA9; ITGB1	Integrin receptor module
spatial_module	Adhesion/ECM score	ITGA1; ITGA9; ITGB1; FN1; COL1A1; COL1A2; COL6A1; COL6A2	Adhesion and ECM module
spatial_module	ECM-integrin context score	ECM_ligand_score_z; Integrin_receptor_score_z; Adhesion_ECM_score_z	Mean of z-scored module scores