

**Table S1: GO Processes for Day 14**

GO processes		BMP-2		TGF- $\beta$ 1		BMP-2 and TGF- $\beta$ 1	
Processes	Min (p-Value)	p-value	Genes from Active Data	p-value	Genes from Active Data	p-value	Genes from Active Data
system development	6.723E-28	2.159E-17	GDF5, alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase class I, LIF, PDGF-R-beta, CD45, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, von Willebrand factor, FZD9, PDGF receptor, REX1, NOTCH1 precursor, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, VCAM1, IL-10, PAX8/PPARGgamma fusion protein, TGF-beta 3, Thy-1, BMP4, Beta-catenin	5.319E-20	alpha-6/beta-1 integrin, NGFR(TNFRSF16), Beta-2-microglobulin, HNF1, RUNX2, HDAC1, Histone deacetylase class I, LIF, ITGB1, SOX9, PPAR-gamma, MGF, TGF-beta, Actin cytoskeletal, G-CSF, Endoglin, ACTB, MMP-2, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, Oct-3/4, VCAM1, PAX8/PPARGgamma fusion protein, TGF-beta 3, Thy-1, FGF10, Actin, CD133, HNF1-alpha, Beta-catenin, RhoA	6.723E-28	BMP6, SMURF, Caspase-3, NGFR(TNFRSF16), IFN-gamma, HNF1, ITGAX, LIF, BMP2, CD45, ITGB1, SOX9, PPAR-gamma, ACTA2, MGF, TGF-beta, Frizzled, Notch, G-CSF, FZD9, Endoglin, NOTCH1 precursor, REX1, SMURF1, MMP-2, GDF7, 5'-NTD, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, VCAM1, CD13, FAK1, PAX8/PPARGgamma fusion protein, Actin muscle, CD166, CD44, TGF-beta 3, TNF-alpha, MCAM, FGF10, Thy-1, Actin, Integrin, HNF1-alpha, BMP7, Beta-catenin
organ development	5.300E-27	9.501E-22	GDF5, alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase class I, LIF, PDGF-R-beta, CD45, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, von Willebrand factor, FZD9, PDGF receptor, REX1, NOTCH1 precursor, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, VCAM1, IL-10, PAX8/PPARGgamma fusion protein, TGF-beta 3, Thy-1, BMP4, Beta-catenin	9.501E-22	alpha-6/beta-1 integrin, NGFR(TNFRSF16), Beta-2-microglobulin, HNF1, RUNX2, HDAC1, Histone deacetylase class I, LIF, ITGB1, SOX9, PPAR-gamma, MGF, TGF-beta, G-CSF, Endoglin, MMP-2, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, Oct-3/4, VCAM1, PAX8/PPARGgamma fusion protein, TGF-beta 3, Thy-1, FGF10, Actin, CD133, HNF1-alpha, Beta-catenin, RhoA	5.300E-27	BMP6, Caspase-3, NGFR(TNFRSF16), IFN-gamma, HNF1, ITGAX, LIF, BMP2, CD45, ITGB1, SOX9, PPAR-gamma, ACTA2, MGF, TGF-beta, Frizzled, Notch, G-CSF, FZD9, Endoglin, NOTCH1 precursor, REX1, MMP-2, GDF7, 5'-NTD, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, VCAM1, FAK1, PAX8/PPARGgamma fusion protein, Actin muscle, CD44, TGF-beta 3, TNF-alpha, FGF10, Thy-1, Actin, Integrin, HNF1-alpha, BMP7, Beta-catenin
regulation of multicellular organismal development	1.510E-26	2.149E-25	GDF5, IL-1 beta, alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase	5.060E-21	alpha-6/beta-1 integrin, NGFR(TNFRSF16), HNF1, RUNX2, HDAC1, Histone deacetylase class I,	1.510E-26	BMP6, IL-1 beta, SMURF, NGFR(TNFRSF16), IFN-gamma, HNF1, LIF, BMP2, CD45, ITGB1, SOX9, PPAR-

			class I, LIF, PDGF-R-beta, CD45, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, PDGF receptor, NOTCH1 precursor, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, IL-10, PAX8/PPARgamma fusion protein, TGF-beta 3, Thy-1, BMP4, Beta-catenin		LIF, ITGB1, SOX9, PPAR-gamma, MGF, TGF-beta, Endoglin, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, PAX8/PPARgamma fusion protein, TGF-beta 3, Thy-1, FGF10, CD133, Beta-catenin, RhoA		gamma, MGF, TGF-beta, Frizzled, Notch, Endoglin, NOTCH1 precursor, SMURF1, GDF7, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, FAK1, PAX8/PPARgamma fusion protein, CD44, TGF-beta 3, TNF-alpha, FGF10, Thy-1, Integrin, BMP7, Beta-catenin
cell differentiation	2.905E-26	1.531E-18	GDF5, alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase class I, LIF, PDGF-R-beta, CD45, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, FZD9, PDGF receptor, REX1, NOTCH1 precursor, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, VCAM1, IL-10, PAX8/PPARgamma fusion protein, Thy-1, BMP4, Beta-catenin	3.528E-21	alpha-6/beta-1 integrin, NGFR(TNFRSF16), Beta-2-microglobulin, HNF1, RUNX2, HDAC1, Histone deacetylase class I, LIF, ITGB1, SOX9, PPAR-gamma, MGF, TGF-beta, Actin cytoskeletal, G-CSF, Endoglin, ACTB, MMP-2, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, Oct-3/4, VCAM1, PAX8/PPARgamma fusion protein, Thy-1, FGF10, Actin, CD133, Beta-catenin, RhoA	2.905E-26	BMP6, SMURF, Caspase-3, NGFR(TNFRSF16), IFN-gamma, HNF1, LIF, BMP2, CD45, ITGB1, SOX9, PPAR-gamma, ACTA2, MGF, TGF-beta, Frizzled, Notch, G-CSF, FZD9, Endoglin, NOTCH1 precursor, REX1, SMURF1, MMP-2, GDF7, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, VCAM1, CD13, FAK1, PAX8/PPARgamma fusion protein, Actin muscle, CD166, CD44, TNF-alpha, FGF10, Thy-1, Actin, Integrin, BMP7, Beta-catenin
multicellular organismal development	4.130E-26	1.932E-16	GDF5, IL-1 beta, alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase class I, LIF, PDGF-R-beta, CD45, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, von Willebrand factor, FZD9, PDGF receptor, REX1, NOTCH1 precursor, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, VCAM1, IL-10, PAX8/PPARgamma fusion protein, TGF-beta 3, Thy-1, BMP4, Beta-catenin	1.078E-17	alpha-6/beta-1 integrin, NGFR(TNFRSF16), Beta-2-microglobulin, HNF1, RUNX2, HDAC1, Histone deacetylase class I, LIF, ITGB1, SOX9, PPAR-gamma, MGF, TGF-beta, Actin cytoskeletal, G-CSF, Endoglin, ACTB, MMP-2, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, Oct-3/4, VCAM1, PAX8/PPARgamma fusion protein, TGF-beta 3, Thy-1, FGF10, Actin, CD133, HNF1-alpha, Beta-catenin, RhoA	4.130E-26	BMP6, IL-1 beta, SMURF, Caspase-3, NGFR(TNFRSF16), IFN-gamma, HNF1, ITGAX, LIF, BMP2, CD45, ITGB1, SOX9, PPAR-gamma, ACTA2, MGF, TGF-beta, Frizzled, Notch, G-CSF, FZD9, Endoglin, NOTCH1 precursor, REX1, SMURF1, MMP-2, GDF7, 5'-NTD, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, VCAM1, CD13, FAK1, PAX8/PPARgamma fusion protein, Actin muscle, CD166, CD44, TGF-beta 3, TNF-alpha, MCAM, FGF10, Thy-1, Actin,

							Integrin, HNF1-alpha, BMP7, Beta-catenin
cellular developmental process	1.071E-25	3.889E-18	GDF5, alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase class I, LIF, PDGF-R-beta, CD45, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, FZD9, PDGF receptor, REX1, NOTCH1 precursor, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, VCAM1, IL-10, PAX8/PPARgamma fusion protein, Thy-1, BMP4, Beta-catenin	9.649E-21	alpha-6/beta-1 integrin, NGFR(TNFRSF16), Beta-2-microglobulin, HNF1, RUNX2, HDAC1, Histone deacetylase class I, LIF, ITGB1, SOX9, PPAR-gamma, MGF, TGF-beta, Actin cytoskeletal, G-CSF, Endoglin, ACTB, MMP-2, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, Oct-3/4, VCAM1, PAX8/PPARgamma fusion protein, Thy-1, FGF10, Actin, CD133, Beta-catenin, RhoA	1.071E-25	BMP6, SMURF, Caspase-3, NGFR(TNFRSF16), IFN-gamma, HNF1, LIF, BMP2, CD45, ITGB1, SOX9, PPAR-gamma, ACTA2, MGF, TGF-beta, Frizzled, Notch, G-CSF, FZD9, Endoglin, NOTCH1 precursor, REX1, SMURF1, MMP-2, GDF7, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, VCAM1, CD13, FAK1, PAX8/PPARgamma fusion protein, Actin muscle, CD166, CD44, TNF-alpha, FGF10, Thy-1, Actin, Integrin, BMP7, Beta-catenin
organ morphogenesis	1.464E-25	2.800E-20	alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase class I, LIF, PDGF-R-beta, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, PDGF receptor, NOTCH1 precursor, GDF7, IGF-1, Osteocalcin, ITGA6, PAX8/PPARgamma fusion protein, TGF-beta 3, Thy-1, BMP4, Beta-catenin	1.025E-21	alpha-6/beta-1 integrin, NGFR(TNFRSF16), HNF1, RUNX2, HDAC1, Histone deacetylase class I, LIF, SOX9, PPAR-gamma, TGF-beta, Endoglin, MMP-2, GDF7, IGF-1, Osteocalcin, ITGA6, PAX8/PPARgamma fusion protein, TGF-beta 3, Thy-1, FGF10, Actin, CD133, HNF1-alpha, Beta-catenin	1.464E-25	BMP6, NGFR(TNFRSF16), HNF1, ITGAX, LIF, BMP2, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, Endoglin, NOTCH1 precursor, MMP-2, GDF7, IGF-1, Osteocalcin, FAK1, PAX8/PPARgamma fusion protein, Actin muscle, CD44, TGF-beta 3, TNF-alpha, FGF10, Thy-1, Actin, Integrin, HNF1-alpha, BMP7, Beta-catenin
anatomical structure development	1.942E-25	9.615E-16	GDF5, alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase class I, LIF, PDGF-R-beta, CD45, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, von Willebrand factor, FZD9, PDGF receptor, REX1, NOTCH1 precursor, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, VCAM1, IL-10, PAX8/PPARgamma fusion protein, TGF-	3.210E-18	alpha-6/beta-1 integrin, NGFR(TNFRSF16), Beta-2-microglobulin, HNF1, RUNX2, HDAC1, Histone deacetylase class I, LIF, ITGB1, SOX9, PPAR-gamma, MGF, TGF-beta, Actin cytoskeletal, G-CSF, Endoglin, ACTB, MMP-2, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, Oct-3/4, VCAM1, PAX8/PPARgamma fusion protein, TGF-	1.942E-25	BMP6, SMURF, Caspase-3, NGFR(TNFRSF16), IFN-gamma, HNF1, ITGAX, LIF, BMP2, CD45, ITGB1, SOX9, PPAR-gamma, ACTA2, MGF, TGF-beta, Frizzled, Notch, G-CSF, FZD9, Endoglin, NOTCH1 precursor, REX1, SMURF1, MMP-2, GDF7, 5'-NTD, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, VCAM1, CD13, FAK1, PAX8/PPARgamma

			beta 3, Thy-1, BMP4, Beta-catenin		beta 3, Thy-1, FGF10, Actin, CD133, HNF1-alpha, Beta-catenin, RhoA		fusion protein, Actin muscle, CD166, CD44, TGF-beta 3, TNF-alpha, MCAM, FGF10, Thy-1, Actin, Integrin, HNF1-alpha, BMP7, Beta-catenin
tissue development	3.813E-25	5.604E-21	GDF5, alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase class I, LIF, PDGF-R-beta, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, von Willebrand factor, PDGF receptor, NOTCH1 precursor, GDF7, IGF-1, VEGFR-2, Osteocalcin, VCAM1, IL-10, PAX8/PPARgamma fusion protein, BMP4, Beta-catenin	2.186E-22	alpha-6/beta-1 integrin, NGFR(TNFRSF16), HNF1, RUNX2, HDAC1, Histone deacetylase class I, LIF, ITGB1, SOX9, PPAR-gamma, MGF, TGF-beta, Endoglin, MMP-2, GDF7, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, VCAM1, PAX8/PPARgamma fusion protein, FGF10, Actin, CD133, HNF1-alpha, Beta-catenin, RhoA	3.813E-25	BMP6, SMURF, Caspase-3, NGFR(TNFRSF16), HNF1, LIF, BMP2, ITGB1, SOX9, PPAR-gamma, ACTA2, MGF, TGF-beta, Frizzled, Notch, Endoglin, NOTCH1 precursor, SMURF1, MMP-2, GDF7, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, VCAM1, PAX8/PPARgamma fusion protein, Actin muscle, CD44, FGF10, HNF1-alpha, BMP7, Beta-catenin
anatomical structure morphogenesis	5.161E-25	1.408E-22	GDF5, alpha-6/beta-1 integrin, NGFR(TNFRSF16), VEGF-A, HDAC1, Histone deacetylase class I, LIF, PDGF-R-beta, CD45, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, von Willebrand factor, PDGF receptor, NOTCH1 precursor, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, VCAM1, IL-10, PAX8/PPARgamma fusion protein, TGF-beta 3, Thy-1, BMP4, Beta-catenin	5.063E-24	alpha-6/beta-1 integrin, NGFR(TNFRSF16), HNF1, RUNX2, HDAC1, Histone deacetylase class I, LIF, ITGB1, SOX9, PPAR-gamma, TGF-beta, Actin cytoskeletal, Endoglin, ACTB, MMP-2, BDNF, GDF7, IGF-1, VEGFR-2, Osteocalcin, ITGA6, Oct-3/4, VCAM1, PAX8/PPARgamma fusion protein, TGF-beta 3, Thy-1, FGF10, Actin, CD133, HNF1-alpha, Beta-catenin, RhoA	5.161E-25	BMP6, NGFR(TNFRSF16), HNF1, ITGAX, LIF, BMP2, CD45, ITGB1, SOX9, PPAR-gamma, TGF-beta, Frizzled, Notch, Endoglin, NOTCH1 precursor, MMP-2, GDF7, IGF-1, VEGFR-2, Osteocalcin, Oct-3/4, VCAM1, CD13, FAK1, PAX8/PPARgamma fusion protein, Actin muscle, CD166, CD44, TGF-beta 3, TNF-alpha, MCAM, FGF10, Thy-1, Actin, Integrin, HNF1-alpha, BMP7, Beta-catenin