

Time Point	Cluster ID #	Major Cell Type		Subtype	Identifier genes	# of Cells in Cluster	Citations
48-50HPF	cl0	Neuronal	Autonomic Neuronal Progenitor		phox2bb, tfap2a/b, elavl3/4, phox2a, tuba2, ncam1a, draxin, snca, fez1, cdh2	201	Farnsworth et al., 2020; Soldatov et al., 2019
48-50HPF	cl1	Mesenchyme	Mesenchymal Progenitor		prrx1a, snai1a, twist1a, foxc1b, mcm5, pcna, mcm7, cdh11, meox1	160	Soldatov et al., 2019
48-50HPF	cl2	Mesenchyme	Chondrogenic Mesenchyme Proliferative 1		dlx2a, prrx1a/b, twist1a/b, barx1, cdk1, ccna2	154	Soldatov et al., 2019; Sperber et al., 2008; Sperber and Dawid, 2008; Ding et al., 2013; Barske et al., 2016
48-50HPF	cl3	Mesenchyme	Chondrogenic Mesenchyme Proliferative 2		barx1, dlx2a, mcm6, prrx1b, chaf1a, pcna, hand2	129	Soldatov et al., 2019; Sperber et al., 2008; Sperber and Dawid, 2008; Ding et al., 2013; Barske et al., 2016
48-50HPF	cl4	Mesenchyme	Chondrogenic Mesenchyme Stem-like		prrx1a, dlx2a, barx1, twist1a, rpa1, fen1, rpa2, uhrf1, id3, chaf1a	108	Soldatov et al., 2019; Sperber et al., 2008; Sperber and Dawid, 2008; Ding et al., 2013; Barske et al., 2016
48-50HPF	cl5	Neural Crest	Migratory Neural Crest/ Enteric Neural Crest		sox10, foxd3, crestin, tfap2a, mmp17b, pcdh10a, phox2bb, ret, ngrfr, gfra1a,	93	Dutton et al., 2001; Luo et al., 2001; Knight et al., 2003; Stewart et al., 2006
48-50HPF	cl6	Mesenchyme	Mesenchyme Differentiating 1		foxc1a, twist1a, tagln2, aldh1a2, rdh10a, meis3, cyp26a1, hand2, tpm4a, actb1	88	Soldatov et al., 2019
48-50HPF	cl7	Neuronal	Central Nervous System neuron		gad1b, gad2, slc6a5, slc32a1, gata2a, irx1b, elavl3, elavl4, tuba2, phox2bb	86	Farnsworth et al. 2020
48-50HPF	cl8	Pigment	Melanophore		tyrp1a/b, mitfa, dct, pmela, slc45a2, sox10, mlpha, tspan10, oca2	81	Du et al., 2003; Lister et al., 1999; Ludwig et al., 2004; Quigley and Parichy, 2002
48-50HPF	cl9	Mesenchyme	Chondrogenic Mesenchyme Migratory		dlx2a, barx1, foxc1a, twist1a, dx4a, id2a, snai1a/b, twist3	77	Soldatov et al., 2019; Sperber et al., 2008; Sperber and Dawid, 2008; Ding et al., 2013; Barske et al., 2016
48-50HPF	cl10	Mesenchyme	Mesenchyme Differentiating 2		cdh11, foxc1a/b, prrx1a, meox1, pdgfra, col2a1a, col9a1a, col9a2, sparc, colec12, reck	74	Soldatov et al., 2019
48-50HPF	cl11	Mesenchyme	Mesenchymal Migratory		cxcl12a, cxcl12b, rac1, reck, foxc1a, twist1a, prrx1a, meox1, sna2	74	Soldatov et al., 2019
48-50HPF	cl12	Mesenchyme	Chondrogenic Mesenchyme Proliferative 3		prrx1b, twist1b, foxc1a, barx1, cyp26a1, rdh10a, meis3, aldh1a2, mcm5, mcm6	61	Soldatov et al., 2019
48-50HPF	cl13	Neural	Neural Progenitor		notch1a, dla/b, olig4, elavl3, phox2ba, neurod4, scrt2, phox2bb, ncam1a	61	Farnsworth et al., 2020
48-50HPF	cl14	Mesenchyme	Fin Bud		tbx5a, hand2, hoxa13a/b, prrx1a/b, foxc1b, hoxd13a, pcna	58	Yelon et al., 2000; Lu et al., 2019; Nakamura et al., 2016; Feregrino et al., 2019
48-50HPF	cl15	Glial	Peripheral Glial Progenitor		sox10, olig1/2, fabp7a, notch1a, sox3, nkx2.2a, pou3f1, plp1a, gfap, s100b	44	Soldatov et al., 2019; Carney et al. 2006
48-50HPF	cl16	Otic	Otic Epithelium		sox10, cdh11, otomp, cldnb, cldn7b, cldnh, epcam, aldh1a3, vamp8	23	Thisse et al., 2004; Thisse et al., 2005
48-50HPF	cl17	Neuronal	Sensory Neuronal Progenitor		ngfrb, neurod1, neurod4, vim, neurog1, grfra1a, six1a/b, elavl4, isl2a/b, pou4f1	23	Soldatov et al., 2019
48-50HPF	cl18	Muscle	Muscle		ckmb, actc1b, tnn2, tnnt3a, pvalb2, tnnt3b, ak1, tpma, desma	13	Thisse et al., 2004
68-70HPF	cl0	Mesenchyme	Chondrogenic Differentiating Mesenchyme 1		barx1, sparc, prrx1a/b, twist1a/b, pdgfra, col1a2, col6a1, col5a1	281	Soldatov et al., 2019; Sperber et al., 2008; Sperber and Dawid, 2008; Ding et al., 2013; Barske et al., 2016
68-70HPF	cl1	Mesenchyme	Fin Bud		tbx5a, hand2, prrx1a/b, hoxd13a, pcna, foxc1a/b, meox1, hoxa13a/b	254	Yelon et al., 2000; Lu et al., 2019; Nakamura et al., 2016; Feregrino et al., 2019
68-70HPF	cl2	Mesenchyme	Mesenchymal Migratory		meox1, prrx1a/b, foxc1b, snai1a, cdh11, rac1a, myl9b, twist1a/b	229	Soldatov et al., 2019
68-70HPF	cl3	Neural	Neural Progenitor		fabp7a, foxd3, sox10, phox2bb, her4.2, mdka, her4.1, ccnd2a, ngrfr, tuba8l3	228	Farnsworth et al. 2020
68-70HPF	cl4	Pigment	Melanophore		mitfa, pmela, tyrp1a/b, dct, oca2, mlpha, tspan10, tfap2e	213	Du et al., 2003; Lister et al., 1999; Ludwig et al., 2004; Quigley and Parichy, 2002
68-70HPF	cl5	Neuronal	Sympatho-enteric Progenitor		ascl1a, phox2bb, phox2a, hand2, insm1a/b, dpysl3, ret, ngrfr, gfra1a, elavl3/4	202	Thisse et al., 2004; Heanue and Pachnis, 2008
68-70HPF	cl6	Mesenchyme	Chondrogenic Differentiating Mesenchyme 2		barx1, prrx1a, foxc1a/b, twist1a, col1a2, col5a1, cdh11, dx5a, sparc, meox1	191	Soldatov et al., 2019
68-70HPF	cl7	Mesenchyme	Fin Bud		tbx5a, hand2, hoxa13a/b, prrx1a/b, hoxd13a, pcna, sox10	178	Yelon et al., 2000; Lu et al., 2019; Nakamura et al., 2016; Feregrino et al., 2019
68-70HPF	cl8	Mesenchyme	Chondrogenic Proliferative Mesenchyme		prrx1a/b, foxc1a, twist1a/b, barx1, col2a1a, pcna, cdc6, ccnb2	98	Soldatov et al., 2019
68-70HPF	cl9	Muscle	Pigmented Muscle		tnnt3b, mitfa, tyrp1a, tpma, ckmb, gch2, dct, tnn2, myl1,	93	Thisse et al., 2004; Thisse et al., 2005
68-70HPF	cl10	Neural	Neural Progenitor		sox10, foxd3, ascl1a, aurkb, ncam1b, ccna2, tpx2, phox2bb, ret, elavl3/4	76	Farnsworth et al. 2020
68-70HPF	cl11	Otic	Otic Epithelium		cidne, vamp8, cldnb, epcam, cldn7b, cldnh, cdh1	70	Thisse et al., 2004, Thisse et al., 2001
68-70HPF	cl12	Neuronal	Enteric Neuron		elavl3/4, phox2bb, gfra1a, ret, fgf13b, vip, vipb, nos1, ngrfr, hoxb5b	44	Shepherd et al., 2004; Heanue and Pachnis, 2008; Uyttebroek et al., 2010; Taylor et al., 2016; Gaudet et al., 2011
68-70HPF	cl13	Pigment	Pigment Progenitor		sox10, tfec, tfap2e, mitfa, zeb2a, cdh11, mlpha, pax3a, trpm1b, gpx3	43	Saunders et al., 2019
68-70HPF	cl14	Glial	Schwann Cells		sox10, mbpa/b, pou3f1, egr2b, fabp7a, erbb3a, plp1a, cx27.5, gldn, mag	42	Farnsworth et al. 2020
68-70HPF	cl15	Pigment	Xanthophore		xdh, pax7a/b, gch2, aox5	39	Nord et al., 2016; Parichy et al., 2000; Saunders et al., 2019; Minchin and Hughes, 2008; Lister et al., 1999
68-70HPF	cl16	Pigment	Iridiophore		atic, gpnmb, tfec, pnp4a	32	Higdon et al., 2013; Lister et al., 2011; Petratou et al., 2018, 2019
68-70HPF	cl17	Mesenchyme	Differentiating Mesenchyme 1		twist1a, prrx1a, colec12, sparc, mmp2, msx2b, col5a1, col1a1a, pdgfra, tnc	25	Soldatov et al., 2019
68-70HPF	cl18	Pigment	Proliferative Melanophores		mitfa, pmela, tyrp1a/b, aurkb, pcna, cenph, mlpha, dct, gpr143, tfap2e	19	Du et al., 2003; Lister et al., 1999; Ludwig et al., 2004; Quigley and Parichy, 2002
68-70HPF	cl19	Muscle	Muscle		ckmb, tpma, tnn2, tnnt3b, actc1b, cavin4a, myom1a, neb, flnca, desma,	18	Thisse et al., 2004
68-70HPF	cl20	Mesenchyme	Chondrogenic Mesenchyme Migratory		barx1, twist1a, foxc1a/b, snai1a, dx3b, mmp2, sparc, sna2, dlx2a, sox9a	16	Soldatov et al., 2019
68-70HPF	cl21	Unidentified/Spurious	Unidentified/Spurious		anxa2b, cldnc, faah2b, vil1, fabp1b.1, plac8.1	13	
68-70HPF	cl22	Mesenchyme	Differentiating Mesenchyme 2		rac2, sparc, col18a1, col2a1b, col1a1a, lama5, thy1	6	Soldatov et al., 2019