Analysis performed: 190614_142600

• Analyzed sequences (hits resulting from 676 blast searches, 52 animal groups x 13 query sequences):49992 (out of which unique: 8666, programmatically recognized as VEGF/PDGF family members: 90.5%).

Red dotted lines in the tree indicate paraphyletic relationships.

• The tree background color indicates the presence of the proteins with the corresponding color according to our hypotheses.

• The red-to-white background of the table indicates a heuristic reliability of the results, where a brighter color indicates a higher reliability. This is calculated using the number of fully sequenced genomes, the number of species in the phylum and the number of protein sequences available for that phylum.

• The numbers in the table denote the number of: orthologs found (black), P = paralogs found, P = paralogs found, whose relationship could not be programmatically determined, $\Sigma = total$ homologs found.

			specie	es quences	# compl. # unique genomes blasthits		PDGF-A	PDGF-B	PDGF-C	PDGF-D	PIGF-1	VEGF-A121	VEGF-A165	VEGF-A206	VEGF-B167	VEGF-B186	VEGF-C	VEGF-D	VEGF-F
				6 34k	3 0 2 11	ctenophora (comb jellies) porifera (sponges)											1 P0, ?7, Σ8	0 P1, ?1, Σ2	0 P0, ?3, Σ3
	•		3	36k	2 0	placozoa													
			3668	115k	18 94	cnidaria (medusae/polyps)	0 P6, ?4, Σ10	1 P3, ?1, Σ5	0 P1, ?0, Σ1		0 P2, ?1, ∑3	0 P6, ?7, Σ13	1 P7, ?13, Σ21	0 P6, ?9, Σ15	0 P18, ?61, Σ79	0 P6, ?0, Σ6	11 P1, ?43, ∑55	0 P7, ?19, ∑26	0 P3, ?2, Σ5
			151	925	0 1	xenacoelomorpha													
		•	1791	136k	11 42	echinodermata	0 P5, ?1, Σ6	0 P5, ?0, Σ5	0 P11, ?1, Σ12	0 P12, ?1, Σ13	0 P9, ?3, Σ12	3 P2, ?7, Σ12	3 P3, ?11, Σ17	3 P2, ?7, Σ12	0 P10, ?9, Σ19	0 P10, ?8, Σ18	2 P8, ?12, Σ22	1 P9, ?7, Σ17	0 P7, ?3, Σ10
		•		23k		hemichordata (acorn wormws)	0 P2, ?0, Σ2	0 P2, ?0, Σ2	0 P2, ?1, Σ3	0 P2, ?0, Σ2	0 P1, ?0, Σ1	0 P1, ?2, Σ3	0 P1, ?1, Σ2	0 P1, ?1, Σ2	0 P2, ?1, Σ3	0 P2, ?2, Σ4	2 P1, ?1, Σ4	0 P3, ?1, Σ4	0 P2, ?0, Σ2
					4 20	cephalochordata (lancelets)	0 P6, ?1, Σ7	0 P6, ?1, Σ7	0 P5, ?1, Σ6	0 P5, ?1, Σ6	0 P5, ?0, Σ5	1 P5, ?1, Σ7	1 P5, ?1, Σ7	1 P5, ?1, Σ7	0 P6, ?2, Σ8	0 P6, ?1, Σ7	6 P1, ?5, Σ12	0 P6, ?1, Σ7	0 P6, ?1, Σ7
				64k	6 2	tunicata (ha efich (la nanna))	0 P1, ?0, Σ1	0 P1, ?0, Σ1			0 P1, ?0, Σ1	1 P0, ?0, Σ1	1 P0, ?0, Σ1	1 P0, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1
				8k 115k	5 U 6 52	cyclostomata (hagfish/lamprey) chondrichthyes (cartilaginous fishes)	6 P21, ?0, Σ27	2 P25, ?0, Σ27	2 P18, ?0, Σ20	2 P11, ?0, Σ13	0 P25, ?0, Σ25	11 P14, ?0, Σ25	11 P14, ?0, Σ25	11 P13, ?0, Σ24	0 P29, ?0, Σ29	0 P29, ?1, Σ30	6 P23, ?0, Σ29	2 P26, ?0, Σ28	0 P25, ?0, Σ25
				7 2M		actinopterygii (ray-finned fishes)	217 P665, ?170, Σ1052										175 P1034, ?141, Σ1350		30 P1054, ?169, Σ1253
				35k		coelacanthimorpha (lobe-finned fishes)	1 P15, ?0, Σ16	2 P12, ?0, Σ14	1 P12, ?0, Σ13	2 P4, ?0, Σ6	2 P12, ?0, Σ14	3 P12, ?0, Σ15	3 P11, ?0, Σ14	3 P11, ?0, Σ14	3 P14, ?0, Σ17	3 P14, ?1, Σ18	2 P15, ?0, Σ17	1 P16, ?0, Σ17	0 P14, ?0, Σ14
			6	1k	0 10	dipnoi (lungfishes)	1 P3, ?0, Σ4	1 P3, ?0, Σ4	0 P4, ?0, Σ4	0 P4, ?0, Σ4	0 P4, ?0, Σ4	2 P2, ?0, Σ4	2 P2, ?0, Σ4		0 P4, ?0, Σ4	0 P4, ?0, Σ4	0 P4, ?0, Σ4	0 P4, ?0, Σ4	ο P4, ?2, Σ6
			5659	478k	6 144	amphibia	16 P59, ?1, Σ76	12 P62, ?1, Σ75	6 P54, ?0, Σ60	5 P17, ?0, Σ22	0 P66, ?1, Σ67	27 P38, ?1, Σ66	27 P30, ?1, Σ58	27 P33, ?1, Σ61	3 P69, ?1, Σ73	3 P73, ?1, Σ77	5 P71, ?1, Σ77	6 P72, ?1, Σ79	0 P68, ?1, Σ69
			9445	3M	132 1551	aves (birds)	127 P340, ?5, Σ472	118 P461, ?5, Σ584	98 P452, ?2, ∑552	154 P316, ?0, Σ470	109 P463, ?4, Σ576	140 P390, ?9, Σ539	141 P329, ?5, Σ475	141 P329, ?5, Σ475	0 P672, ?8, Σ680	0 P764, ?8, Σ772	130 P704, ?4, Σ838	96 P707, ?4, Σ807	1 P729, ?8, Σ738
			24	179k	4 102	crocodylia (crocodiles)	5 P26, ?0, Σ31	1 P14, ?0, Σ15	4 P35, ?0, Σ39	6 P21, ?0, Σ27	7 P46, ?0, Σ53	17 P40, ?0, Σ57	17 P35, ?0, Σ52	17 P29, ?0, Σ46	0 P57, ?0, Σ57	0 P63, ?0, Σ63	9 P54, ?0, Σ63	8 P55, ?0, Σ63	0 P53, ?0, Σ53
			3227	96k	6 66	lepidosauria excl. toxicofera (non-poisonous lizards	s) 3 P52, ?0, Σ55	6 P45, ?0, Σ51	3 P38, ?1, Σ42	5 P18, ?0, Σ23	6 P46, ?1, Σ53	26 P31, ?1, Σ58	26 P26, ?1, Σ53	26 P22, ?1, Σ49	2 P54, ?0, Σ56	2 P59, ?0, Σ61	7 P56, ?1, Σ64	5 P57, ?0, Σ62	4 P48, ?0, Σ52
			3776	467k	15 161	toxicofera (poisonous reptiles)	12 P122, ?0, Σ134	9 P113, ?0, Σ122	9 P89, ?0, Σ98	11 P26, ?0, Σ37	14 P91, ?28, Σ133	53 P63, ?29, Σ145	53 P43, ?29, Σ125	53 P45, ?28, Σ126	7 P109, ?26, Σ142	7 P120, ?26, Σ153	11 P108, ?26, Σ145	2 P119, ?23, Σ144	24 P107, ?5, Σ136
			358	184k	10 188	testudines (turtles)	9 P65, ?1, Σ75	8 P66, ?1, Σ75	7 P60, ?7, Σ74	17 P20, ?0, Σ37	10 P61, ?1, Σ72	30 P48, ?1, Σ79	30 P52, ?4, Σ86	30 P36, ?1, Σ67	8 P65, ?1, Σ74	8 P88, ?2, Σ98	6 P91, ?2, Σ99	5 P92, ?1, Σ98	0 P70, ?1, Σ71
			5			monotremata (egg-laying mammals)	1 P6, ?0, Σ7	1 P5, ?0, Σ6	3 P10, ?0, Σ13		1 P5, ?0, Σ6	1 P6, ?0, Σ7	1 P6, ?0, Σ7	1 P6, ?0, Σ7	0 P8, ?0, Σ8	0 P8, ?0, Σ8	2 P6, ?0, Σ8	1 P7, ?0, Σ8	0 P6, ?0, Σ6
		_	333			metatheria (marsupials)	7 P36, ?0, Σ43	5 P36, ?0, Σ41	4 P33, ?0, Σ37		4 P25, ?0, Σ29	4 P28, ?0, Σ32	4 P22, ?0, Σ26	4 P22, ?0, Σ26	4 P32, ?0, Σ36	4 P36, ?0, Σ40	4 P35, ?0, Σ39	5 P34, ?0, Σ39	0 P39, ?0, Σ39
					181 2995	eutheria (placentals)	247 P762, ?6, Σ1015 0 P1, ?3, Σ4	223 P892, ?13, Σ1128 0 P3, ?1, Σ4	218 P659, ?1, Σ878 0 P2, ?0, Σ2	235 P417, ?0, Σ652	261 P1262, ?9, Σ1532	434 P900, ?6, Σ1340 0 P0, ?4, Σ4	440 P862, ?6, Σ1308 0 P0, ?6, Σ6	440 P857, ?6, Σ1303 0 P0, ?3, Σ3	249 P1420, ?11, Σ1680 0 P4, ?0, Σ4	249 P1504, ?10, Σ1763 0 P3, ?1, Σ4	171 P1406, ?9, Σ1586 0 P2, ?2, Σ4	164 P1601, ?9, Σ1774 0 P4, ?0, Σ4	0 P1596, ?10, Σ16060 P2, ?1, Σ3
				46k	2 9 1 0	onychophora (velvet worms)	0 P1, !3, Z4	U P3, :1, 24	0 PZ, !O, ZZ	0 PI, !O, ZI	0 PZ, 10, ZZ	0 P0, :4, 24	0 P0, :0, 20	0 PU, :3, Z3	0 P4, :0, Z4	U P3, :1, 24	U PZ, !Z, Z4	U P4, 10, 24	U PZ, !1, Z3
						arachnida (spiders)	2 P20, ?3, Σ25	0 P20, ?3, Σ23	0 P21, ?5, ∑26	0 P9, ?2, ∑11	2 P24, ?39, Σ65	14 P5, ?22, Σ41	14 P5, ?20, ∑39	13 P5, ?16, ∑34	0 P25, ?13, Σ38	0 P24, ?11, Σ35	1 P16, ?16, Σ33	1 P14, ?2, Σ17	1 P26, ?30, Σ57
			5	39k	1 41	xiphosura (horseshoe crabs)	0 P6, ?3, Σ9	0 P6, ?1, Σ7	0 P7, ?3, Σ10	0 P3, ?2, Σ5	0 P7, ?20, Σ27	7 P0, ?11, Σ18	7 P0, ?11, Σ18	7 P0, ?11, Σ18	0 P7, ?11, Σ18	0 P7, ?11, Σ18	0 P7, ?4, Σ11	0 P2, ?0, Σ2	0 P7, ?11, Σ18
			966	7k	1 1	myriapoda (millipeds)										0			
			10889	947k	25 53	crustacea crustacea	0 P10, ?8, Σ18	0 P11, ?4, Σ15	1 P4, ?3, Σ8	0 P1, ?8, Σ9	0 P5, ?7, ∑12	5 P4, ?11, Σ20	5 P4, ?12, Σ21	4 P4, ?8, Σ16	1 P9, ?19, Σ29	1 P6, ?19, Σ26	1 P8, ?13, Σ22	1 P6, ?8, Σ15	1 P7, ?9, Σ17
			11390	06 7M	339 618	hexapoda (insects)	20 P77, ?117, Σ214	3 P89, ?113, Σ205	1 P42, ?34, Σ77	2 P23, ?16, Σ41	3 P52, ?141, ∑196	49 P53, ?154, ∑256	59 P61, ?198, ∑318	39 P45, ?129, ∑213	5 P110, ?177, Σ292	5 P94, ?156, Σ255	16 P18, ?98, ∑132	2 P36, ?55, Σ93	3 P95, ?236, ∑334
		•				nematomorpha (horsehair worms)													
						nematoda (roundworms)		0 P0, ?11, Σ11							0 P1, ?22, Σ23		0 P0, ?4, Σ4	0 P0, ?2, ∑2	0 P0, ?24, Σ24
					1 8	priapulida (penis worms)	1 P0, ?0, Σ1	0 P1, ?7, <u>≥</u> 8					0 P1, ?0, Σ1		0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1		0 P1, ?0, Σ1
					0 0	loricifera kinorhyncha (mud dragons)													
					0 0	chaetognatha (arrow worms)													
		-				bryozoa (moss animals)										0 P0, ?1, Σ1			
					0 2	entoprocta										0 P0, ?1, Σ1		0 P0, ?1, Σ1	
			2	278	0 0	cycliophora (symbion)													
			3315	129k	5 8	🕹 annelida (segmented worms)	0 P0, ?3, Σ3	0 P2, ?2, Σ4	0 P1, ?1, Σ2	0 P1, ?1, Σ2	0 P1, ?2, Σ3	0 P0, ?3, Σ3	0 P0, ?3, Σ3	0 P0, ?3, Σ3	0 P1, ?2, Σ3	0 P1, ?1, Σ2	0 P0, ?3, Σ3	0 P1, ?1, Σ2	0 P1, ?2, Σ3
			14098	3 742k	26 38	mollusca	0 P4, ?6, Σ10	0 P8, ?0, Σ8	0 P4, ?4, Σ8	0 P1, ?4, Σ5	0 P2, ?1, Σ3	2 P2, ?9, Σ13	2 P2, ?9, Σ13	2 P2, ?5, Σ9	0 P9, ?6, Σ15	0 P4, ?6, Σ10	0 P1, ?15, Σ16	0 P7, ?4, Σ11	0 P8, ?4, Σ12
					1 0	nemertea (ribbon worms)													
					1 6		0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P0, ?1, Σ1	0 P1, ?0, Σ1		0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?1, Σ2	0 P1, ?0, Σ1	0 P1, ?2, Σ3	1 P0, ?0, Σ1	0 P1, ?0, Σ1
					1 0	phoroniformea (horseshoe worms)													
		<u> </u>		389 561k		gastrotricha (hairybacks) platyhelminthes (flatworms)										0 P0, ?1, Σ1			
						gnathostomulida (jaw worms)										U 10, :1, Z1			
		0_0				micrognathozoa													
						rotifera (wheel animals)	1 P0, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?1, Σ2		0 P1, ?0, Σ1		0 P1, ?0, Σ1		0 P1, ?0, Σ1	0 P1, ?1, Σ2	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?2, Σ3
		•				orthonectida													
		•	24	150	0 0	dicyemida													

Force topology is enabled!