

- Analysis performed: 190808\_131207

- 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, ? = homologs found, whose relationship could not be programmatically determined, Σ = total homologs found.

|  | # animal species | # sequences | # compl. genomes (excl. false pos.) | # unique 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                |
|--|------------------|-------------|-------------------------------------|--------------------|--|-----------------------|----------------------|---------------------|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|-----------------------|
|  | 55               | 6           | 3                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       | 1 P0, ?7, Σ8           | 0 P1, ?1, Σ2           | 0 P0, ?3, Σ3          |
|  | 1373             | 34k         | 2                                   | 11 (0)             |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 3                | 36k         | 2                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 3673             | 115k        | 18                                  | 94 (83)            |  | 0 P6, ?4, Σ10         | 1 P3, ?1, Σ5         | 0 P1, ?0, Σ1        |                    | 0 P2, ?1, Σ3          | 0 P6, ?7, Σ13         | 1 P7, ?13, Σ21        | 0 P6, ?9, Σ15         | 0 P18, ?61, Σ79       | 0 P6, ?0, Σ6          | 11 P1, ?43, Σ55        | 0 P7, ?19, Σ26         | 0 P3, ?2, Σ5          |
|  | 151              | 925         | 0                                   | 1 (0)              |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        | 0 P0, ?1, Σ1           |                       |
|  | 1794             | 136k        | 11                                  | 42 (40)            |  | 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         |
|  | 39               | 23k         | 2                                   | 9 (6)              |  | 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          |
|  | 11               | 95k         | 4                                   | 20 (14)            |  | 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, ?6, Σ13          | 0 P6, ?1, Σ7           | 0 P6, ?1, Σ7          |
|  | 362              | 64k         | 6                                   | 2 (1)              |  | 0 P1, ?0, Σ1          | 0 P1, ?0, Σ1         |                     |                    | 0 P1, ?1, Σ2          | 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          |
|  | 77               | 8k          | 3                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 833              | 115k        | 6                                   | 52 (51)            |  | 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        |
|  | 19097            | 2M          | 186                                 | 2134 (n.a.)        |  | 217 P665, ?170, Σ1052 | 27 P863, ?170, Σ1060 | 117 P282, ?15, Σ414 | 148 P269, ?9, Σ426 | 102 P882, ?159, Σ1143 | 426 P811, ?209, Σ1446 | 430 P462, ?137, Σ1029 | 433 P463, ?130, Σ1026 | 59 P1041, ?154, Σ1254 | 58 P1161, ?173, Σ1392 | 175 P1034, ?141, Σ1350 | 102 P1012, ?136, Σ1250 | 30 P1054, ?169, Σ1253 |
|  | 2                | 35k         | 1                                   | 31 (30)            |  | 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 (10)            |  | 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           | 0 P4, ?2, Σ6          |
|  | 5698             | 478k        | 6                                   | 144 (144)          |  | 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        |
|  | 9458             | 3M          | 132                                 | 1551 (n.a.)        |  | 127 P340, ?5, Σ472    | 118 P461, ?5, Σ584   | 98 P452, ?2, Σ552   | 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 (102)          |  | 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        |
|  | 3246             | 96k         | 6                                   | 66 (66)            |  | 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        |
|  | 3789             | 467k        | 15                                  | 161 (161)          |  | 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 (188)          |  | 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                | 26k         | 1                                   | 25 (25)            |  | 1 P6, ?0, Σ7          | 1 P5, ?0, Σ6         | 3 P10, ?0, Σ13      | 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              | 142k        | 5                                   | 88 (88)            |  | 7 P36, ?0, Σ43        | 5 P36, ?0, Σ41       | 4 P33, ?0, Σ37      | 10 P16, ?0, Σ26    | 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        |
|  | 4776             | 8M          | 181                                 | 2995 (n.a.)        |  | 247 P762, ?6, Σ1015   | 223 P892, ?13, Σ1128 | 218 P659, ?1, Σ878  | 235 P417, ?0, Σ652 | 261 P1262, ?9, Σ1532  | 434 P900, ?6, Σ1340   | 440 P862, ?6, Σ1308   | 440 P857, ?6, Σ1303   | 249 P1420, ?11, Σ1680 | 249 P1504, ?10, Σ1763 | 171 P1406, ?9, Σ1586   | 164 P1601, ?9, Σ1774   | 0 P1596, ?10, Σ1606   |
|  | 199              | 46k         | 2                                   | 9 (9)              |  | 0 P1, ?3, Σ4          | 0 P3, ?1, Σ4         | 0 P2, ?0, Σ2        | 0 P1, ?0, Σ1       | 0 P2, ?0, Σ2          | 0 P0, ?4, Σ4          | 0 P0, ?6, Σ6          | 0 P0, ?3, Σ3          | 0 P4, ?0, Σ4          | 0 P3, ?1, Σ4          | 0 P2, ?2, Σ4           | 0 P4, ?0, Σ4           | 0 P2, ?1, Σ3          |
|  | 94               | 2k          | 1                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 195              | 2k          | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 10242            | 646k        | 27                                  | 103 (101)          |  | 2 P20, ?3, Σ25        | 0 P20, ?3, Σ23       | 0 P21, ?5, Σ26      | 0 P9, ?2, Σ11      | 2 P24, ?39, Σ65       | 14 P5, ?22, Σ41       | 14 P5, ?20, Σ39       | 13 P5, ?16, Σ34       | 0 P25, ?13, Σ38       | 0 P24, ?11, Σ35       | 1 P16, ?16, Σ33        | 1 P14, ?2, Σ17         | 1 P26, ?30, Σ57       |
|  | 5                | 39k         | 1                                   | 41 (31)            |  | 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        |
|  | 978              | 7k          | 1                                   | 1 (0)              |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       | 0 P0, ?1, Σ1           |                        |                       |
|  | 10990            | 947k        | 25                                  | 53 (52)            |  | 0 P10, ?8, Σ18        | 0 P11, ?4, Σ15       | 1 P4, ?3, Σ8        | 0 P1, ?8, Σ9       | 0 P5, ?7, Σ12         | 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         |
|  | 114524           | 7M          | 339                                 | 618 (n.a.)         |  | 20 P77, ?117, Σ214    | 3 P89, ?113, Σ205    | 1 P42, ?34, Σ77     | 2 P23, ?16, Σ41    | 3 P52, ?141, Σ196     | 49 P53, ?154, Σ256    | 59 P61, ?198, Σ318    | 39 P45, ?129, Σ213    | 5 P110, ?177, Σ292    | 5 P94, ?156, Σ255     | 16 P18, ?98, Σ132      | 2 P36, ?55, Σ93        | 3 P95, ?236, Σ334     |
|  | 30               | 368         | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 3519             | 2M          | 100                                 | 44 (44)            |  | 0 P0, ?35, Σ35        | 0 P0, ?11, Σ11       |                     |                    |                       |                       |                       |                       | 0 P1, ?22, Σ23        | 0 P0, ?21, Σ21        | 0 P0, ?4, Σ4           | 0 P0, ?2, Σ2           | 0 P0, ?24, Σ24        |
|  | 7                | 21k         | 1                                   | 8 (1)              |  | 1 P0, ?0, Σ1          | 0 P1, ?7, Σ8         |                     |                    |                       |                       | 0 P1, ?0, Σ1          |                       | 0 P1, ?0, Σ1          | 0 P1, ?0, Σ1          | 0 P1, ?0, Σ1           |                        | 0 P1, ?0, Σ1          |
|  | 1                | 1           | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 62               | 436         | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 56               | 2k          | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 327              | 3k          | 0                                   | 1 (0)              |  |                       |                      |                     |                    |                       |                       |                       |                       |                       | 0 P0, ?1, Σ1          |                        |                        |                       |
|  | 26               | 155         | 0                                   | 2 (0)              |  |                       |                      |                     |                    |                       |                       |                       |                       |                       | 0 P0, ?1, Σ1          |                        | 0 P0, ?1, Σ1           |                       |
|  | 2                | 278         | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 3333             | 129k        | 5                                   | 8 (7)              |  | 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          |
|  | 14212            | 742k        | 26                                  | 38 (34)            |  | 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         |
|  | 262              | 5k          | 1                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 100              | 42k         | 1                                   | 6 (2)              |  | 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          |
|  | 14               | 165         | 1                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 130              | 389         | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 4470             | 561k        | 26                                  | 1 (0)              |  |                       |                      |                     |                    |                       |                       |                       |                       |                       | 0 P0, ?1, Σ1          |                        |                        |                       |
|  | 21               | 79          | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 1                | 2           | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |
|  | 237              | 64k         | 6                                   | 6 (2)              |  | 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          |
|  | 4                | 9k          | 1                                   | 1 (0)              |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       | 0 P0, ?1, Σ1           |                        |                       |
|  | 24               | 150         | 0                                   | 0                  |  |                       |                      |                     |                    |                       |                       |                       |                       |                       |                       |                        |                        |                       |

Force topology is enabled!  
 Gracils lengths do not represent real values