**Supplemental Table 1.** Proteins significantly increased in relative abundance in the umbilical vein as compared to the umbilical artery representing secretion/release by the placenta into the fetal circulation in neonates ≤ 32 weeks of gestation (N=12) using the SomaLogic platform (p-value ≤0.05). *significant following multiple comparisons with adjusted p-value of ≤0.05. CI, Confidence Interval

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| 14-3-3 protein epsilon | P62258 | 214 (59, 522) | 0.0035 | 0.0122 | * |
| 26S proteasome non-ATPase regulatory subunit 7 | P51665 | 40 (8, 81) | 0.0147 | 0.0304 | * |
| 3-phosphoinositide-dependent protein kinase 1 | O15530 | 107 (39, 208) | 0.0021 | 0.0111 | * |
| 40S ribosomal protein SA | P08865 | 44 (16, 79) | 0.0036 | 0.0124 | * |
| 60 kDa heat shock protein, mitochondrial | P10809 | 194 (57, 449) | 0.003 | 0.0116 | * |
| 72 kDa type IV collagenase | P08253 | 36 (12, 64) | 0.0049 | 0.014 | * |
| A disintegrin and metalloproteinase with thrombospondin motifs 13 | Q76LX8 | 41 (15, 74) | 0.0039 | 0.0126 | * |
| Adapter molecule crk | P46108 | 520 (144, 1475) | 0.0012 | 0.0111 | * |
| Adenylosuccinate lyase | P30566 | 175 (49, 407) | 0.004 | 0.0127 | * |
| Adhesion G protein-coupled receptor E2 | Q9UHX3 | 73 (34, 123) | 0.0006 | 0.0111 | * |
| ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 2 | Q10588 | 53 (13, 107) | 0.0106 | 0.0237 | * |
| Advanced glycosylation end product-specific receptor, soluble | Q15109 | 18 (2, 36) | 0.0322 | 0.0562 | |
| Aggrecan core protein | P16112 | 191 (55, 443) | 0.0032 | 0.012 | * |
| Agouti-related protein | O00253 | 339 (103, 850) | 0.0014 | 0.0111 | * |
| Alpha-(1,3)-fucosyltransferase 5 | Q11128 | 89 (29, 177) | 0.0037 | 0.0124 | * |
| Alpha-2-antiplasmin | P08697 | 14 (4, 24) | 0.0092 | 0.0214 | * |
| Alpha-2-HS-glycoprotein | P02765 | 7 (1, 14) | 0.0299 | 0.0529 | |
| Alpha-2-macroglobulin | P01023 | 47 (26, 71) | 0.0002 | 0.0111 | * |
| alpha-Fetoprotein | P02771 | 65 (23, 123) | 0.0034 | 0.0121 | * |
| Alpha-L-iduronidase | P35475 | 13 (2, 25) | 0.0218 | 0.0417 | * |
| AMP Kinase (alpha2beta2gamma1) | P54646.O43741.P54619 | 49 (3, 116) | 0.038 | 0.0642 | |
| Amphoterin-induced protein 2 | Q86SJ2 | 303 (86, 772) | 0.0022 | 0.0111 | * |
| Angiogenin | P03950 | 11 (2, 21) | 0.0183 | 0.0364 | * |
| Angiopoietin-1 receptor, soluble | Q02763 | 110 (42, 211) | 0.0015 | 0.0111 | * |
| Angiopoietin-2 | O15123 | 41 (20, 67) | 0.0008 | 0.0111 | * |
| Angiostatin | P00747 | 46 (20, 79) | 0.0016 | 0.0111 | * |
| Angiotensinogen | P01019 | 12 (2, 23) | 0.0253 | 0.0465 | * |
| Annexin A1 | P04083 | 150 (22, 411) | 0.0165 | 0.0334 | * |
| Annexin A2 | P07355 | 246 (65, 626) | 0.0036 | 0.0124 | * |
| Antileukoproteinase | P03973 | 21 (3, 41) | 0.0219 | 0.0417 | * |
| Antithrombin-III | P01008 | 10 (1, 20) | 0.0386 | 0.0649 | |
| Apolipoprotein A-I | P02647 | 13 (2, 26) | 0.0208 | 0.0399 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Apolipoprotein M | O95445 | 26 (1, 57) | 0.0425 | 0.0702 | |
| Appetite-regulating hormone | Q9UBU3 | 23 (5, 46) | 0.0177 | 0.0353 | * |
| Arginase-1 | P05089 | 202 (80, 404) | 0.0006 | 0.0111 | * |
| Arylsulfatase A | P15289 | 41 (13, 76) | 0.0061 | 0.0163 | * |
| Asialoglycoprotein receptor 1 | P07306 | 188 (60, 418) | 0.0022 | 0.0111 | * |
| Aspartate aminotransferase, cytoplasmic | P17174 | 45 (18, 76) | 0.0019 | 0.0111 | * |
| B-cell lymphoma 6 protein | P41182 | 22 (5, 43) | 0.0167 | 0.0336 | * |
| Basal Cell Adhesion Molecule | P50895 | 124 (40, 259) | 0.0032 | 0.012 | * |
| Bcl-2-like protein 2 | Q92843 | 13 (1, 26) | 0.0359 | 0.0615 | |
| BDNF/NT-3 growth factors receptor | Q16620 | 42 (21, 67) | 0.0006 | 0.0111 | * |
| Beta-2-microglobulin | P61769 | 11 (1, 22) | 0.0274 | 0.0492 | * |
| beta-nerve growth factor | P01138 | 30 (6, 58) | 0.0151 | 0.0311 | * |
| BH3-interacting domain death agonist | P55957 | 23 (8, 42) | 0.0064 | 0.0169 | * |
| Biglycan | P21810 | 165 (53, 359) | 0.0024 | 0.0111 | * |
| Bone morphogenetic protein 1 | P13497 | 17 (1, 37) | 0.0389 | 0.065 | |
| Bone morphogenetic protein 10 | O95393 | 24 (1, 53) | 0.0441 | 0.0726 | |
| Bone morphogenetic protein 6 | P22004 | 47 (4, 107) | 0.0329 | 0.0571 | |
| Bone morphogenetic protein 7 | P18075 | 129 (46, 260) | 0.0019 | 0.0111 | * |
| Bone morphogenetic protein receptor type-1A | P36894 | 8 (2, 15) | 0.0162 | 0.0328 | * |
| Bone sialoprotein 2 | P21815 | 144 (50, 298) | 0.002 | 0.0111 | * |
| Brain-specific serine protease 4 | Q9GZN4 | 43 (11, 83) | 0.0098 | 0.0225 | * |
| Brother of CDO | Q9BWV1 | 560 (153, 1625) | 0.0012 | 0.0111 | * |
| C-C motif chemokine 14 | Q16627 | 42 (17, 71) | 0.0021 | 0.0111 | * |
| C-C motif chemokine 15 | Q16663 | 43 (21, 70) | 0.0008 | 0.0111 | * |
| C-C motif chemokine 16 | O15467 | 21 (5, 40) | 0.0137 | 0.0289 | * |
| C-C motif chemokine 19 | Q99731 | 51 (15, 97) | 0.0063 | 0.0168 | * |
| C-C motif chemokine 21 | O00585 | 25 (7, 46) | 0.0091 | 0.0213 | * |
| C-C motif chemokine 23 | P55773 | 19 (6, 33) | 0.0064 | 0.0169 | * |
| C-C motif chemokine 25 | O15444 | 63 (20, 121) | 0.0049 | 0.0141 | * |
| C-C motif chemokine 4-like | Q8NHW4 | 131 (42, 276) | 0.0031 | 0.0118 | * |
| C-C motif chemokine 7 | P80098 | 63 (15, 131) | 0.0107 | 0.0239 | * |
| C-type mannose receptor 2 | Q9UBG0 | 43 (19, 72) | 0.0013 | 0.0111 | * |
| C-X-C motif chemokine 10 | P02778 | 20 (1, 43) | 0.0404 | 0.0672 | |
| C-X-C motif chemokine 16 | Q9H2A7 | 34 (15, 56) | 0.0017 | 0.0111 | * |
| C-X-C motif chemokine 9 | Q07325 | 30 (11, 53) | 0.0044 | 0.0133 | * |
| C3a anaphylatoxin des Arginine | P01024 | 102 (28, 218) | 0.0062 | 0.0166 | * |
| C5a anaphylatoxin | P01031.1 | 39 (20, 61) | 0.0004 | 0.0111 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Cadherin-1 | P12830 | 22 (4, 42) | 0.0197 | 0.0386 | * |
| Cadherin-5 | P33151 | 34 (16, 55) | 0.0012 | 0.0111 | * |
| Calreticulin | P27797 | 22 (6, 41) | 0.0108 | 0.024 | * |
| cAMP-dependent protein kinase catalytic subunit alpha | P17612 | 300 (101, 694) | 0.001 | 0.0111 | * |
| Carbohydrate sulfotransferase 15 | Q7LFX5 | 33 (13, 56) | 0.0024 | 0.0111 | * |
| Carbonic anhydrase 3 | P07451 | 12 (4, 20) | 0.0066 | 0.0172 | * |
| Carbonic anhydrase 6 | P23280 | 17 (5, 30) | 0.0071 | 0.018 | * |
| Cardiotrophin-1 | Q16619 | 69 (26, 127) | 0.0023 | 0.0111 | * |
| Caspase-3 | P42574 | 419 (128, 1082) | 0.001 | 0.0111 | * |
| Cathepsin F | Q9UBX1 | 12 (6, 19) | 0.001 | 0.0111 | * |
| Cathepsin H | P09668 | 185 (53, 428) | 0.0034 | 0.012 | * |
| Cathepsin L2 | O60911 | 152 (47, 331) | 0.0031 | 0.0119 | * |
| Cathepsin S | P25774 | 19 (9, 31) | 0.0015 | 0.0111 | * |
| Cathepsin Z | Q9UBR2 | 50 (23, 82) | 0.0008 | 0.0111 | * |
| Cation-independent mannose-6-phosphate receptor | P11717 | 33 (13, 56) | 0.0027 | 0.0114 | * |
| CD109 antigen | Q6YHK3 | 332 (105, 812) | 0.0012 | 0.0111 | * |
| CD166 antigen | Q13740 | 39 (17, 64) | 0.0013 | 0.0111 | * |
| CD177 antigen | Q8N6Q3 | 17 (9, 25) | 0.0004 | 0.0111 | * |
| CD209 antigen | Q9NNX6 | 22 (9, 38) | 0.0035 | 0.0122 | * |
| CD59 glycoprotein | P13987 | 35 (18, 55) | 0.0005 | 0.0111 | * |
| CD83 antigen | Q01151 | 36 (12, 64) | 0.0044 | 0.0133 | * |
| Cell adhesion molecule 1 | Q9BY67 | 206 (65, 467) | 0.0021 | 0.0111 | * |
| Cell adhesion molecule 3 | Q8N126 | 73 (23, 142) | 0.0043 | 0.0131 | * |
| Cell adhesion molecule-related/down-regulated by oncogenes | Q4KMG0 | 37 (14, 63) | 0.0026 | 0.0111 | * |
| Cell surface glycoprotein CD200 receptor 1 | Q8TD46 | 19 (3, 37) | 0.0218 | 0.0417 | * |
| Cerebral dopamine neurotrophic factor | Q49AH0 | 38 (10, 73) | 0.0092 | 0.0214 | * |
| cGMP-specific 3',5'-cyclic phosphodiesterase | O76074 | 58 (10, 128) | 0.0184 | 0.0366 | * |
| Chitinase-3-like protein 1 | P36222 | 26 (8, 47) | 0.0081 | 0.0198 | * |
| Chordin-like protein 1 | Q9BU40 | 13 (2, 25) | 0.0217 | 0.0415 | * |
| Chromogranin-A | P10645 | 43 (18, 74) | 0.002 | 0.0111 | * |
| Ck-beta-8-1 | P55773 | 69 (23, 132) | 0.004 | 0.0127 | * |
| CMRF35-like molecule 6 | Q08708 | 30 (16, 47) | 0.0005 | 0.0111 | * |
| Coactosin-like protein | Q14019 | 42 (17, 73) | 0.0022 | 0.0111 | * |
| Coagulation factor IX | P00740 | 30 (11, 52) | 0.0043 | 0.0131 | * |
| Coagulation factor IXab | P00740.1 | 29 (11, 50) | 0.0029 | 0.0116 | * |
| Coagulation Factor X | P00742 | 14 (3, 25) | 0.0135 | 0.0286 | * |
| Coagulation factor Xa | P00742 | 12 (2, 23) | 0.0201 | 0.0391 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Collagen alpha-1(VIII) chain | P27658 | 26 (0, 58) | 0.0488 | 0.079 | |
| Collagenase 3 | P45452 | 82 (4, 221) | 0.0391 | 0.0654 | |
| Collectin-12 | Q5KU26 | 787 (202, 2504) | 0.001 | 0.0111 | * |
| COMM domain-containing protein 7 | Q86VX2 | 48 (23, 78) | 0.0007 | 0.0111 | * |
| Complement C1r subcomponent | P00736 | 177 (54, 396) | 0.0027 | 0.0114 | * |
| Complement C2 | P06681 | 9 (3, 16) | 0.0108 | 0.024 | * |
| Complement C3 | P01024 | 96 (24, 210) | 0.008 | 0.0196 | * |
| Complement C3b, inactivated | P01024 | 268 (75, 676) | 0.0027 | 0.0114 | * |
| Complement C3d fragment | P01024.5 | 234 (61, 593) | 0.0039 | 0.0126 | * |
| Complement C5 | P01031 | 13 (2, 25) | 0.0232 | 0.0434 | * |
| Complement C5b-C6 complex | P01031.P13671 | 14 (3, 26) | 0.0166 | 0.0336 | * |
| Complement component C1q receptor | Q9NPY3 | 34 (15, 57) | 0.0013 | 0.0111 | * |
| Complement component C6 | P13671 | 289 (76, 762) | 0.0031 | 0.0119 | * |
| Complement decay-accelerating factor | P08174 | 33 (15, 55) | 0.0013 | 0.0111 | * |
| Complement factor H | P08603 | 37 (14, 63) | 0.0027 | 0.0114 | * |
| Contactin-4 | Q8IWV2 | 30 (12, 52) | 0.0027 | 0.0114 | * |
| Contactin-5 | O94779 | 119 (40, 241) | 0.0025 | 0.0111 | * |
| Cystatin-C | P01034 | 12 (2, 24) | 0.0244 | 0.0454 | * |
| Cystatin-D | P28325 | 662 (195, 1872) | 0.0006 | 0.0111 | * |
| Cystatin-F | O76096 | 47 (13, 90) | 0.0081 | 0.0198 | * |
| Cystatin-M | Q15828 | 39 (18, 63) | 0.0009 | 0.0111 | * |
| Cystatin-SA | P09228 | 114 (36, 237) | 0.0035 | 0.0122 | * |
| Cystatin-SN | P01037 | 40 (13, 72) | 0.0047 | 0.0138 | * |
| Cysteine-rich with EGF-like domain protein 1 | Q96HD1 | 29 (12, 49) | 0.0024 | 0.0111 | * |
| Cytochrome c | P99999 | 229 (69, 539) | 0.0023 | 0.0111 | * |
| Cytochrome P450 3A4 | P08684 | 11 (1, 21) | 0.027 | 0.0488 | * |
| Cytoskeleton-associated protein 2 | Q8WWK9 | 71 (25, 135) | 0.0032 | 0.012 | * |
| D-dimer | P02671.P02675.P02679 | 88 (7, 230) | 0.0305 | 0.0536 | |
| dCTP pyrophosphatase 1 | Q9H773 | 286 (69, 782) | 0.0043 | 0.013 | * |
| Decorin | P07585 | 55 (16, 107) | 0.0064 | 0.0169 | * |
| Delta-like protein 1 | O00548 | 31 (14, 51) | 0.0011 | 0.0111 | * |
| Delta-like protein 4 | Q9NR61 | 43 (12, 83) | 0.0085 | 0.0205 | * |
| Dermatopontin | Q07507 | 68 (24, 128) | 0.0032 | 0.012 | * |
| Desmocollin-2 | Q02487 | 37 (17, 61) | 0.0012 | 0.0111 | * |
| Disintegrin and metalloproteinase domain-containing protein 9 | Q13443 | 246 (90, 528) | 0.0008 | 0.0111 | * |
| Down syndrome cell adhesion molecule | O60469 | 57 (17, 111) | 0.0061 | 0.0163 | * |
| Dual specificity protein phosphatase 3 | P51452 | 59 (18, 115) | 0.0058 | 0.0159 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Dynein light chain roadblock-type 1 | Q9NP97 | 137 (44, 288) | 0.0028 | 0.0115 | * |
| E-selectin | P16581 | 36 (16, 59) | 0.0012 | 0.0111 | * |
| Ectodysplasin-A, secreted form | Q92838 | 157 (50, 341) | 0.0026 | 0.0111 | * |
| Ectonucleotide pyrophosphatase/phosphodiesterase family member 7 | Q6UWV6 | 76 (29, 140) | 0.002 | 0.0111 | * |
| Elafin | P19957 | 35 (14, 61) | 0.0029 | 0.0116 | * |
| Endoglin | P17813 | 334 (94, 871) | 0.002 | 0.0111 | * |
| Endoplasmic reticulum aminopeptidase 1 | Q9NZ08 | 484 (146, 1289) | 0.0009 | 0.0111 | * |
| Endoplasmic reticulum resident protein 29 | P30040 | 16 (2, 33) | 0.0321 | 0.0561 | |
| Endostatin | P39060 | 37 (14, 64) | 0.0029 | 0.0116 | * |
| Endothelial cell-selective adhesion molecule | Q96AP7 | 32 (14, 53) | 0.0018 | 0.0111 | * |
| Endothelin-converting enzyme 1 | P42892 | 12 (5, 20) | 0.0031 | 0.0118 | * |
| Ephrin type-A receptor 1 | P21709 | 380 (102, 1040) | 0.0021 | 0.0111 | * |
| Ephrin type-A receptor 2 | P29317 | 144 (45, 309) | 0.003 | 0.0116 | * |
| Ephrin type-A receptor 5 | P54756 | 294 (85, 737) | 0.0021 | 0.0111 | * |
| Ephrin type-B receptor 2 | P29323 | 56 (15, 112) | 0.0082 | 0.0199 | * |
| Ephrin type-B receptor 6 | O15197 | 25 (8, 45) | 0.0064 | 0.0169 | * |
| Ephrin-A2 | O43921 | 33 (13, 56) | 0.0026 | 0.0111 | * |
| Ephrin-A4 | P52798 | 117 (44, 226) | 0.0016 | 0.0111 | * |
| Ephrin-A5 | P52803 | 269 (80, 657) | 0.0021 | 0.0111 | * |
| Ephrin-B1 | P98172 | 29 (15, 44) | 0.0005 | 0.0111 | * |
| Ephrin-B2 | P52799 | 1837 (335, 8531) | 0.0011 | 0.0111 | * |
| Ephrin-B3 | Q15768 | 68 (19, 138) | 0.0071 | 0.0181 | * |
| Epidermal growth factor receptor | P00533 | 28 (11, 47) | 0.0034 | 0.012 | * |
| Epithelial discoidin domain-containing receptor 1 | Q08345 | 21 (5, 38) | 0.0112 | 0.0246 | * |
| Erythropoietin | P01588 | 208 (67, 468) | 0.0019 | 0.0111 | * |
| Eukaryotic translation initiation factor 4 gamma 2 | P78344 | 180 (58, 395) | 0.0022 | 0.0111 | * |
| Eukaryotic translation initiation factor 4H | Q15056 | 483 (148, 1267) | 0.0008 | 0.0111 | * |
| Fatty acid-binding protein, heart | P05413 | 31 (13, 53) | 0.0021 | 0.0111 | * |
| Fatty acid-binding protein, liver | P07148 | 239 (55, 643) | 0.0056 | 0.0156 | * |
| Ferritin | P02794.P02792 | 21 (6, 39) | 0.0089 | 0.021 | * |
| Fibroblast growth factor 19 | O95750 | 122 (37, 259) | 0.004 | 0.0127 | * |
| Fibroblast growth factor 23 | Q9GZV9 | 254 (96, 537) | 0.0006 | 0.0111 | * |
| Fibroblast growth factor receptor 1 | P11362 | 10 (2, 19) | 0.0145 | 0.0302 | * |
| Fibronectin Fragment 4 | P02751 | 23 (3, 46) | 0.0254 | 0.0465 | * |
| Ficolin-3 | O75636 | 11 (0, 23) | 0.0493 | 0.0798 | |
| Follistatin-related protein 1 | Q12841 | 32 (15, 53) | 0.0013 | 0.0111 | * |
| Follistatin-related protein 3 | O95633 | 35 (15, 57) | 0.0014 | 0.0111 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Fractalkine | P78423 | 25 (2, 54) | 0.0373 | 0.0633 | |
| Galectin-2 | P05162 | 39 (4, 86) | 0.0304 | 0.0536 | |
| Galectin-3-binding protein | Q08380 | 39 (16, 67) | 0.0019 | 0.0111 | * |
| Gamma-enolase | P09104 | 443 (124, 1216) | 0.0015 | 0.0111 | * |
| Gelsolin | P06396 | 11 (3, 21) | 0.0125 | 0.0271 | * |
| Glucagon | P01275 | 79 (20, 165) | 0.008 | 0.0196 | * |
| Glutamate carboxypeptidase 2 | Q04609 | 60 (16, 121) | 0.0081 | 0.0197 | * |
| Glutathione S-transferase P | P09211 | 207 (76, 433) | 0.001 | 0.0111 | * |
| Glypican-3 | P51654 | 128 (49, 249) | 0.0013 | 0.0111 | * |
| Glypican-5 | P78333 | 73 (21, 148) | 0.0064 | 0.0169 | * |
| gp41 C34 peptide, HIV | Q70626 | 33 (7, 65) | 0.0162 | 0.0328 | * |
| Granulins | P28799 | 31 (13, 52) | 0.0017 | 0.0111 | * |
| Granulocyte colony-stimulating factor | P09919 | 551 (147, 1616) | 0.0014 | 0.0111 | * |
| Granulocyte-macrophage colony-stimulating factor | P04141 | 71 (20, 144) | 0.0067 | 0.0174 | * |
| Granzyme A | P12544 | 23 (2, 49) | 0.0337 | 0.0583 | |
| Growth arrest-specific protein 1 | P54826 | 36 (15, 62) | 0.0022 | 0.0111 | * |
| Growth factor receptor-bound protein 2 | P62993 | 562 (169, 1529) | 0.0007 | 0.0111 | * |
| Growth/differentiation factor 11 | O95390 | 21 (3, 43) | 0.0268 | 0.0487 | * |
| Growth/differentiation factor 15 | Q99988 | 23 (3, 46) | 0.024 | 0.0449 | * |
| Heat shock 70 kDa protein 1A | P0DMV8 | 69 (21, 136) | 0.0051 | 0.0146 | * |
| Hemopexin | P02790 | 10 (3, 18) | 0.0078 | 0.0194 | * |
| Heparan-sulfate 6-O-sulfotransferase 1 | O60243 | 32 (12, 55) | 0.0035 | 0.0122 | * |
| Heparin cofactor 2 | P05546 | 9 (2, 16) | 0.0203 | 0.0394 | * |
| Hepatitis A virus cellular receptor 2 | Q8TDQ0 | 46 (15, 85) | 0.0048 | 0.0139 | * |
| Hepatocyte growth factor activator | Q04756 | 12 (2, 23) | 0.0245 | 0.0455 | * |
| Hepatocyte growth factor receptor | P08581 | 39 (16, 67) | 0.0019 | 0.0111 | * |
| Hepcidin | P81172 | 36 (11, 66) | 0.0069 | 0.0177 | * |
| HERV-H LTR-associating protein 2 | Q9UM44 | 35 (3, 76) | 0.0305 | 0.0537 | |
| High affinity cGMP-specific 3',5'-cyclic phosphodiesterase 9A | O76083 | 26 (4, 53) | 0.0236 | 0.0442 | * |
| Histone H3.1 | P68431 | 65 (29, 110) | 0.0009 | 0.0111 | * |
| Human Chorionic Gonadotropin | P01215.P01233 | 156 (34, 389) | 0.0085 | 0.0204 | * |
| Hyaluronan and proteoglycan link protein 1 | P10915 | 42 (1, 98) | 0.0434 | 0.0716 | |
| Iduronate 2-sulfatase | P22304 | 199 (66, 437) | 0.0017 | 0.0111 | * |
| Immunoglobulin superfamily containing leucine-rich repeat protein 2 | Q6UXK2 | 75 (20, 155) | 0.0077 | 0.0192 | * |
| Importin subunit alpha-1 | P52292 | 46 (17, 81) | 0.0028 | 0.0116 | * |
| Importin subunit beta-1 | Q14974 | 528 (142, 1528) | 0.0014 | 0.0111 | * |
| Inhibin beta A chain | P08476 | 474 (134, 1311) | 0.0013 | 0.0111 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Inhibin beta A chain:Inhibin beta B chain heterodimer | P08476.P09529 | 56 (21, 101) | 0.0029 | 0.0116 | * |
| Inorganic pyrophosphatase | Q15181 | 521 (139, 1508) | 0.0014 | 0.0111 | * |
| Insulin receptor | P06213 | 230 (83, 498) | 0.001 | 0.0111 | * |
| Insulin-degrading enzyme | P14735 | 179 (62, 380) | 0.0016 | 0.0111 | * |
| Insulin-like growth factor 1 receptor | P08069 | 67 (22, 129) | 0.0044 | 0.0133 | * |
| Insulin-like growth factor-binding protein 1 | P08833 | 32 (19, 48) | 0.0002 | 0.0111 | * |
| Insulin-like growth factor-binding protein 4 | P22692 | 26 (8, 48) | 0.008 | 0.0196 | * |
| Insulin-like growth factor-binding protein 7 | Q16270 | 31 (12, 52) | 0.003 | 0.0116 | * |
| Integrin alpha-V: beta-5 complex | P06756.P18084 | 23 (5, 43) | 0.0136 | 0.0286 | * |
| Intercellular adhesion molecule 1 | P05362 | 15 (5, 25) | 0.0045 | 0.0134 | * |
| Intercellular adhesion molecule 5 | Q9UMF0 | 31 (14, 51) | 0.0012 | 0.0111 | * |
| Interferon alpha/beta receptor 1 | P17181 | 187 (58, 419) | 0.0024 | 0.0111 | * |
| Interferon beta | P01574 | 40 (2, 91) | 0.0387 | 0.0649 | |
| Interferon gamma | P01579 | 128 (36, 281) | 0.0048 | 0.0139 | * |
| Interferon gamma receptor 1 | P15260 | 167 (55, 362) | 0.0022 | 0.0111 | * |
| Interleukin-1 Receptor accessory protein | Q9NPH3 | 40 (19, 65) | 0.0008 | 0.0111 | * |
| Interleukin-1 receptor antagonist protein | P18510 | 63 (9, 143) | 0.0206 | 0.0397 | * |
| Interleukin-1 receptor type 1 | P14778 | 339 (83, 953) | 0.0034 | 0.0121 | * |
| Interleukin-1 receptor type 2 | P27930 | 38 (17, 62) | 0.0012 | 0.0111 | * |
| Interleukin-10 receptor subunit beta | Q08334 | 46 (15, 86) | 0.0057 | 0.0156 | * |
| Interleukin-13 receptor subunit alpha-1 | P78552 | 36 (10, 67) | 0.0079 | 0.0194 | * |
| Interleukin-17 receptor B | Q9NRM6 | 42 (9, 87) | 0.0152 | 0.0312 | * |
| Interleukin-17 receptor C | Q8NAC3 | 79 (29, 147) | 0.0023 | 0.0111 | * |
| Interleukin-18 receptor 1 | Q13478 | 52 (16, 100) | 0.0059 | 0.016 | * |
| Interleukin-2 | P60568 | 91 (28, 186) | 0.0046 | 0.0136 | * |
| Interleukin-22 receptor subunit alpha-2 | Q969J5 | 209 (64, 484) | 0.0024 | 0.0111 | * |
| Interleukin-23 | P29460.Q9NPF7 | 297 (84, 759) | 0.0023 | 0.0111 | * |
| Interleukin-25 | Q9H293 | 25 (5, 49) | 0.0154 | 0.0315 | * |
| Interleukin-27 | Q8NEV9.Q14213 | 108 (29, 238) | 0.0065 | 0.017 | * |
| Interleukin-27 receptor subunit alpha | Q6UWB1 | 27 (8, 50) | 0.0082 | 0.0199 | * |
| Interleukin-4 receptor subunit alpha | P24394 | 19 (0, 41) | 0.0487 | 0.079 | |
| Interleukin-6 receptor subunit alpha | P08887 | 37 (16, 63) | 0.002 | 0.0111 | * |
| Interleukin-6 receptor subunit beta | P40189 | 42 (18, 70) | 0.0014 | 0.0111 | * |
| Kallikrein-11 | Q9UBX7 | 108 (35, 220) | 0.0033 | 0.012 | * |
| Kallikrein-7 | P49862 | 38 (16, 63) | 0.0016 | 0.0111 | * |
| Kallikrein-8 | O60259 | 299 (92, 729) | 0.0016 | 0.0111 | * |
| Kallistatin | P29622 | 10 (1, 20) | 0.0356 | 0.0611 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Kelch-like ECH-associated protein 1 | Q14145 | 29 (8, 54) | 0.0101 | 0.023 | * |
| Kunitz-type protease inhibitor 1 | O43278 | 175 (56, 384) | 0.0023 | 0.0111 | * |
| Kunitz-type protease inhibitor 2 | O43291 | 90 (31, 174) | 0.0029 | 0.0116 | * |
| Lactadherin | Q08431 | 128 (34, 287) | 0.0058 | 0.0159 | * |
| Lactoperoxidase | P22079 | 203 (60, 473) | 0.0028 | 0.0116 | * |
| Latent-transforming growth factor beta-binding protein 4 | Q8N2S1 | 30 (11, 53) | 0.0037 | 0.0124 | * |
| Layilin | Q6UX15 | 94 (28, 194) | 0.0049 | 0.014 | * |
| Leptin receptor | P48357 | 18 (7, 30) | 0.0037 | 0.0124 | * |
| Leucine-rich repeat transmembrane protein FLRT2 | O43155 | 82 (27, 161) | 0.0036 | 0.0124 | * |
| Leucine-rich repeat transmembrane protein FLRT3 | Q9NZU0 | 844 (182, 3058) | 0.0018 | 0.0111 | * |
| Leucine-rich repeats and immunoglobulin-like domains protein 3 | Q6UXM1 | 227 (78, 502) | 0.0013 | 0.0111 | * |
| Leukocyte immunoglobulin-like receptor subfamily B member 1 | Q8NHL6 | 38 (17, 63) | 0.0013 | 0.0111 | * |
| Leukocyte immunoglobulin-like receptor subfamily B member 2 | Q8N423 | 34 (15, 57) | 0.0016 | 0.0111 | * |
| Limbic system-associated membrane protein | Q13449 | 45 (20, 74) | 0.0011 | 0.0111 | * |
| Lithostathine-1-alpha | P05451 | 41 (13, 75) | 0.0054 | 0.015 | * |
| Low affinity immunoglobulin epsilon Fc receptor | P06734 | 34 (15, 56) | 0.0015 | 0.0111 | * |
| Low affinity immunoglobulin gamma Fc region receptor II-a | P12318 | 16 (1, 33) | 0.0339 | 0.0586 | |
| Low affinity immunoglobulin gamma Fc region receptor II-b | P31994 | 21 (6, 37) | 0.0086 | 0.0206 | * |
| Low-density lipoprotein receptor-related protein 1, soluble | Q07954 | 99 (31, 203) | 0.0041 | 0.0128 | * |
| Low-density lipoprotein receptor-related protein 8 | Q14114 | 158 (45, 357) | 0.0039 | 0.0126 | * |
| Lumican | P51884 | 11 (3, 20) | 0.0131 | 0.0281 | * |
| Ly6/PLAUR domain-containing protein 3 | O95274 | 41 (11, 80) | 0.0094 | 0.0217 | * |
| Lymphocyte activation gene 3 protein | P18627 | 70 (24, 134) | 0.0034 | 0.0121 | * |
| Lymphotoxin alpha1:beta2 | P01374.Q06643 | 179 (55, 401) | 0.0027 | 0.0114 | * |
| Lymphotoxin alpha2:beta1 | P01374.Q06643 | 39 (5, 83) | 0.025 | 0.0462 | * |
| Lysosomal protective protein | P10619 | 17 (3, 32) | 0.0201 | 0.0391 | * |
| Lysozyme C | P61626 | 29 (12, 47) | 0.0016 | 0.0111 | * |
| Macrophage colony-stimulating factor 1 | P09603 | 31 (1, 71) | 0.0446 | 0.0732 | |
| Macrophage colony-stimulating factor 1 receptor | P07333 | 35 (13, 62) | 0.0033 | 0.012 | * |
| Macrophage mannose receptor 1 | P22897 | 35 (14, 59) | 0.0022 | 0.0111 | * |
| Macrophage metalloelastase | P39900 | 67 (24, 126) | 0.0031 | 0.0119 | * |
| Macrophage-capping protein | P40121 | 87 (48, 135) | 0.0001 | 0.0111 | * |
| Mannan-binding lectin serine protease 1 | P48740 | 46 (14, 89) | 0.007 | 0.018 | * |
| Mast/stem cell growth factor receptor Kit | P10721 | 19 (2, 40) | 0.0311 | 0.0545 | |
| Matrilin-2 | O00339 | 28 (9, 50) | 0.0065 | 0.0171 | * |
| Matrilysin | P09237 | 51 (20, 90) | 0.0023 | 0.0111 | * |
| Mediator of RNA polymerase II transcription subunit 1 | Q15648 | 37 (16, 62) | 0.0017 | 0.0111 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Melanoma-derived growth regulatory protein | Q16674 | 36 (13, 63) | 0.0038 | 0.0125 | * |
| MHC class I polypeptide-related sequence A | Q29983 | 262 (77, 643) | 0.0023 | 0.0111 | * |
| MHC class I polypeptide-related sequence B | Q29980 | 145 (45, 315) | 0.0032 | 0.012 | * |
| Mitogen-activated protein kinase 11 | Q15759 | 89 (34, 166) | 0.0019 | 0.0111 | * |
| Mitogen-activated protein kinase 12 | P53778 | 33 (11, 58) | 0.0047 | 0.0136 | * |
| Mitogen-activated protein kinase 13 | O15264 | 29 (2, 63) | 0.0351 | 0.0603 | |
| Mucin-1 | P15941 | 15 (4, 27) | 0.0124 | 0.0268 | * |
| Myeloid cell surface antigen CD33 | P20138 | 36 (4, 78) | 0.0304 | 0.0536 | |
| Myoglobin | P02144 | 33 (10, 60) | 0.0073 | 0.0183 | * |
| N-acylethanolamine-hydrolyzing acid amidase | Q02083 | 382 (114, 987) | 0.0013 | 0.0111 | * |
| N-terminal pro-BNP | P16860 | 142 (48, 295) | 0.0023 | 0.0111 | * |
| NADPH--cytochrome P450 reductase | P16435 | 99 (41, 179) | 0.001 | 0.0111 | * |
| Nascent polypeptide-associated complex subunit alpha | Q13765 | 39 (9, 79) | 0.0138 | 0.0289 | * |
| Natural cytotoxicity triggering receptor 1 | O76036 | 39 (14, 70) | 0.0038 | 0.0125 | * |
| Netrin receptor UNC5C | O95185 | 35 (14, 60) | 0.0026 | 0.0111 | * |
| Netrin receptor UNC5D | Q6UXZ4 | 2004 (407, 8637) | 0.0006 | 0.0111 | * |
| Neural cell adhesion molecule 1, 120 kDa isoform | P13591 | 38 (17, 62) | 0.0013 | 0.0111 | * |
| Neural cell adhesion molecule L1 | P32004 | 26 (11, 44) | 0.0026 | 0.0111 | * |
| Neural cell adhesion molecule L1-like protein | O00533 | 29 (9, 54) | 0.0073 | 0.0184 | * |
| Neuregulin-1 | Q02297 | 30 (7, 57) | 0.0129 | 0.0277 | * |
| Neurexin-1-beta | P58400 | 117 (34, 251) | 0.0046 | 0.0134 | * |
| Neurexin-3-beta | Q9HDB5 | 30 (11, 54) | 0.0044 | 0.0133 | * |
| Neurexophilin-1 | P58417 | 41 (13, 76) | 0.0056 | 0.0154 | * |
| Neuroblastoma suppressor of tumorigenicity 1 | P41271 | 477 (122, 1398) | 0.002 | 0.0111 | * |
| Neurogenic locus notch homolog protein 1 | P46531 | 35 (16, 58) | 0.0014 | 0.0111 | * |
| Neurogenic locus notch homolog protein 2 | Q04721 | 42 (9, 86) | 0.0152 | 0.0312 | * |
| Neuroligin-4, X-linked | Q8N0W4 | 42 (11, 81) | 0.0099 | 0.0225 | * |
| Neuronal cell adhesion molecule | Q92823 | 124 (37, 265) | 0.004 | 0.0127 | * |
| Neuronal growth regulator 1 | Q7Z3B1 | 25 (9, 43) | 0.0042 | 0.0129 | * |
| Neuropilin-1 | O14786 | 85 (36, 152) | 0.0011 | 0.0111 | * |
| Neutrophil gelatinase-associated lipocalin | P80188 | 28 (12, 46) | 0.0017 | 0.0111 | * |
| Nicotinamide phosphoribosyltransferase | P43490 | 51 (19, 90) | 0.0025 | 0.0111 | * |
| Nidogen-1 | P14543 | 45 (17, 80) | 0.0029 | 0.0116 | * |
| Nidogen-2 | Q14112 | 19 (3, 38) | 0.0208 | 0.0399 | * |
| NSFL1 cofactor p47 | Q9UNZ2 | 223 (72, 504) | 0.0017 | 0.0111 | * |
| NT-3 growth factor receptor | Q16288 | 179 (53, 411) | 0.0032 | 0.012 | * |
| Nucleoside diphosphate kinase B | P22392 | 663 (217, 1735) | 0.0003 | 0.0111 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| NudC domain-containing protein 3 | Q8IVD9 | 68 (26, 124) | 0.0022 | 0.0111 | * |
| OCIA domain-containing protein 1 | Q9NX40 | 22 (4, 43) | 0.0186 | 0.0369 | * |
| Osteomodulin | Q99983 | 47 (20, 80) | 0.0016 | 0.0111 | * |
| Osteopontin | P10451 | 1375 (262, 5909) | 0.0014 | 0.0111 | * |
| OX-2 membrane glycoprotein | P41217 | 122 (39, 256) | 0.0033 | 0.012 | * |
| P-selectin | P16109 | 23 (11, 38) | 0.0014 | 0.0111 | * |
| Pancreatic hormone | P01298 | 51 (13, 101) | 0.0095 | 0.0218 | * |
| Peptide YY | P10082 | 43 (12, 83) | 0.0089 | 0.021 | * |
| Phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN | P60484 | 52 (22, 89) | 0.0015 | 0.0111 | * |
| Phosphoglycerate kinase 1 | P00558 | 178 (63, 373) | 0.0014 | 0.0111 | * |
| Phospholipase A2 | P04054 | 76 (26, 147) | 0.0037 | 0.0124 | * |
| Pigment epithelium-derived factor | P36955 | 10 (0, 20) | 0.0419 | 0.0694 | |
| PIK3CA/PIK3R1 | P42336.P27986 | 103 (41, 192) | 0.0013 | 0.0111 | * |
| PILR alpha-associated neural protein | Q8IYJ0 | 313 (106, 728) | 0.0009 | 0.0111 | * |
| Plasma protease C1 inhibitor | P05155 | 46 (21, 77) | 0.0012 | 0.0111 | * |
| Plasma serine protease inhibitor | P05154 | 16 (4, 31) | 0.0159 | 0.0324 | * |
| Platelet glycoprotein 4 | P16671 | 109 (41, 208) | 0.0016 | 0.0111 | * |
| Platelet-derived growth factor receptor alpha | P16234 | 201 (55, 487) | 0.0039 | 0.0126 | * |
| Platelet-derived growth factor receptor beta | P09619 | 259 (71, 654) | 0.003 | 0.0116 | * |
| Plexin-B2 | O15031 | 36 (16, 60) | 0.0015 | 0.0111 | * |
| Plexin-C1 | O60486 | 34 (12, 61) | 0.0048 | 0.0139 | * |
| Polymeric immunoglobulin receptor | P01833 | 24 (4, 47) | 0.0197 | 0.0386 | * |
| PolyUbiquitin K63-linked | P0CG48 | 147 (63, 273) | 0.0005 | 0.0111 | * |
| Prefoldin subunit 5 | Q99471 | 101 (41, 185) | 0.0012 | 0.0111 | * |
| Pro-opiomelanocortin | P01189 | 131 (38, 288) | 0.0045 | 0.0134 | * |
| Programmed cell death 1 ligand 1 | Q9NZQ7 | 52 (14, 104) | 0.009 | 0.0211 | * |
| Prolactin | P01236 | 28 (11, 47) | 0.0026 | 0.0111 | * |
| Prolactin receptor | P16471 | 46 (12, 91) | 0.0098 | 0.0223 | * |
| Prolyl endopeptidase FAP | Q12884 | 42 (17, 74) | 0.0025 | 0.0111 | * |
| Properdin | P27918 | 692 (164, 2280) | 0.0016 | 0.0111 | * |
| Proprotein convertase subtilisin/kexin type 7 | Q16549 | 114 (38, 232) | 0.0028 | 0.0116 | * |
| Proprotein convertase subtilisin/kexin type 9 | Q8NBP7 | 9 (1, 17) | 0.0271 | 0.0488 | * |
| Protein deglycase DJ-1 | Q99497 | 46 (15, 86) | 0.0052 | 0.0146 | * |
| Protein FAM3B | P58499 | 34 (14, 58) | 0.0025 | 0.0111 | * |
| Protein FAM3D | Q96BQ1 | 122 (44, 245) | 0.002 | 0.0111 | * |
| Protein jagged-1 | P78504 | 28 (7, 53) | 0.0105 | 0.0235 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Protein kinase C alpha type | P17252 | 130 (44, 268) | 0.0025 | 0.0111 | * |
| Protein lin-7 homolog B | Q9HAP6 | 26 (6, 49) | 0.0135 | 0.0286 | * |
| Protein S100-A7 | P31151 | 197 (71, 417) | 0.0012 | 0.0111 | * |
| Proto-oncogene tyrosine-protein kinase receptor Ret | P07949 | 31 (11, 55) | 0.0044 | 0.0133 | * |
| Pyridoxal kinase | O00764 | 186 (66, 393) | 0.0014 | 0.0111 | * |
| R-spondin-3 | Q9BXY4 | 110 (40, 215) | 0.002 | 0.0111 | * |
| Ras GTPase-activating protein 1 | P20936 | 61 (21, 115) | 0.0038 | 0.0125 | * |
| Receptor tyrosine-protein kinase erbB-3 | P21860 | 34 (15, 56) | 0.0014 | 0.0111 | * |
| Regenerating islet-derived protein 4 | Q9BYZ8 | 32 (14, 52) | 0.0013 | 0.0111 | * |
| Renin | P00797 | 36 (16, 60) | 0.0014 | 0.0111 | * |
| Repulsive guidance molecule A | Q96B86 | 16 (6, 27) | 0.004 | 0.0127 | * |
| Resistin | Q9HD89 | 19 (6, 35) | 0.0086 | 0.0206 | * |
| Reticulon-4 receptor | Q9BZR6 | 31 (13, 53) | 0.002 | 0.0111 | * |
| RGM domain family member B | Q6NW40 | 36 (9, 68) | 0.0101 | 0.0229 | * |
| Ribosomal protein S6 kinase alpha-3 | P51812 | 66 (27, 116) | 0.0014 | 0.0111 | * |
| RNA-binding protein 39 | Q14498 | 28 (5, 56) | 0.0176 | 0.0351 | * |
| Roundabout homolog 2 | Q9HCK4 | 32 (13, 54) | 0.0024 | 0.0111 | * |
| S-formylglutathione hydrolase | P10768 | 249 (73, 607) | 0.0024 | 0.0111 | * |
| Scavenger receptor class F member 1 | Q14162 | 27 (10, 47) | 0.0039 | 0.0126 | * |
| Scavenger receptor cysteine-rich type 1 protein M130 | Q86VB7 | 47 (22, 78) | 0.0009 | 0.0111 | * |
| Secreted frizzled-related protein 1 | Q8N474 | 297 (46, 980) | 0.0115 | 0.0251 | * |
| Secretin | P09683 | 26 (3, 55) | 0.029 | 0.0516 | |
| Semaphorin-5A | Q13591 | 94 (36, 176) | 0.0018 | 0.0111 | * |
| Semaphorin-6A | Q9H2E6 | 531 (149, 1500) | 0.0011 | 0.0111 | * |
| Semaphorin-6B | Q9H3T3 | 382 (117, 969) | 0.0012 | 0.0111 | * |
| Serine protease HTRA2, mitochondrial | O43464 | 290 (97, 670) | 0.0011 | 0.0111 | * |
| Serum albumin | P02768 | 20 (6, 35) | 0.0067 | 0.0174 | * |
| Sialic acid-binding Ig-like lectin 14 | Q08ET2 | 32 (14, 53) | 0.0016 | 0.0111 | * |
| Sialic acid-binding Ig-like lectin 7 | Q9Y286 | 21 (9, 35) | 0.0017 | 0.0111 | * |
| Sialic acid-binding Ig-like lectin 9 | Q9Y336 | 174 (54, 386) | 0.0027 | 0.0114 | * |
| SLAM family member 5 | Q9UIB8 | 106 (34, 217) | 0.0035 | 0.0122 | * |
| SLAM family member 6 | Q96DU3 | 12 (0, 26) | 0.0445 | 0.0732 | |
| SLIT and NTRK-like protein 5 | O94991 | 1534 (286, 6813) | 0.0013 | 0.0111 | * |
| Small glutamine-rich tetratricopeptide repeat-containing protein alpha | O43765 | 190 (54, 446) | 0.0035 | 0.0122 | * |
| Small nuclear ribonucleoprotein F | P62306 | 23 (7, 41) | 0.0065 | 0.017 | * |
| Somatostatin-28 | P61278 | 36 (13, 63) | 0.0038 | 0.0125 | * |
| Sonic hedgehog protein | Q15465 | 286 (103, 631) | 0.0007 | 0.0111 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| SPARC-like protein 1 | Q14515 | 28 (12, 47) | 0.0022 | 0.0111 | * |
| SPARC-related modular calcium-binding protein 1 | Q9H4F8 | 27 (11, 44) | 0.0021 | 0.0111 | * |
| Stanniocalcin-1 | P52823 | 31 (12, 53) | 0.0029 | 0.0116 | * |
| Stem cell growth factor-alpha | Q9Y240 | 41 (9, 83) | 0.0135 | 0.0286 | * |
| Stem Cell Growth Factor-beta | Q9Y240 | 48 (14, 93) | 0.0073 | 0.0183 | * |
| Stromelysin-2 | P09238 | 232 (79, 518) | 0.0013 | 0.0111 | * |
| T-lymphocyte activation antigen CD86 | P42081 | 85 (30, 165) | 0.0028 | 0.0116 | * |
| T-lymphocyte surface antigen Ly-9 | Q9HBG7 | 312 (87, 808) | 0.0023 | 0.0111 | * |
| Tenascin | P24821 | 32 (13, 56) | 0.0029 | 0.0116 | * |
| Teratocarcinoma-derived growth factor 1 | P13385 | 232 (81, 510) | 0.0012 | 0.0111 | * |
| Testican-2 | Q92563 | 34 (13, 59) | 0.0028 | 0.0116 | * |
| Thioredoxin domain-containing protein 12 | O95881 | 14 (8, 21) | 0.0002 | 0.0111 | * |
| Thrombin | P00734 | 148 (50, 312) | 0.0023 | 0.0111 | * |
| Thrombopoietin | P40225 | 110 (34, 228) | 0.0038 | 0.0125 | * |
| Thrombospondin-2 | P35442 | 63 (11, 139) | 0.017 | 0.0342 | * |
| Thyroid Stimulating Hormone | P01215.P01222 | 629 (174, 1837) | 0.0009 | 0.0111 | * |
| Tissue Factor | P13726 | 192 (63, 425) | 0.002 | 0.0111 | * |
| Toll-like receptor 2 | O60603 | 71 (26, 133) | 0.0025 | 0.0111 | * |
| Transforming growth factor beta receptor type 3 | Q03167 | 39 (16, 68) | 0.0023 | 0.0111 | * |
| Transforming growth factor-beta-induced protein ig-h3 | Q15582 | 27 (8, 50) | 0.0088 | 0.0208 | * |
| Transmembrane glycoprotein NMB | Q14956 | 28 (11, 48) | 0.0033 | 0.012 | * |
| Trefoil factor 1 | P04155 | 74 (22, 146) | 0.0052 | 0.0146 | * |
| Trefoil factor 2 | Q03403 | 136 (41, 297) | 0.0038 | 0.0125 | * |
| Trefoil factor 3 | Q07654 | 34 (15, 55) | 0.0015 | 0.0111 | * |
| Troponin I, fast skeletal muscle | P48788 | 126 (36, 275) | 0.0045 | 0.0134 | * |
| Troponin T, cardiac muscle | P45379 | 19 (0, 41) | 0.0451 | 0.0738 | |
| Trypsin-1 | P07477 | 38 (17, 62) | 0.0012 | 0.0111 | * |
| Trypsin-2 | P07478 | 38 (18, 62) | 0.0009 | 0.0111 | * |
| Tryptase beta-2 | P20231 | 26 (10, 43) | 0.0027 | 0.0114 | * |
| Tumor necrosis factor ligand superfamily member 12 | O43508 | 63 (16, 128) | 0.0092 | 0.0214 | * |
| Tumor necrosis factor ligand superfamily member 13B | Q9Y275 | 48 (15, 92) | 0.0064 | 0.0169 | * |
| Tumor necrosis factor ligand superfamily member 15 | O95150 | 158 (53, 332) | 0.002 | 0.0111 | * |
| Tumor necrosis factor ligand superfamily member 6, soluble form | P48023 | 65 (21, 127) | 0.0049 | 0.0141 | * |
| Tumor necrosis factor receptor superfamily member 11A | Q9Y6Q6 | 23 (5, 44) | 0.0157 | 0.0319 | * |
| Tumor necrosis factor receptor superfamily member 17 | Q02223 | 16 (3, 31) | 0.023 | 0.0431 | * |
| Tumor necrosis factor receptor superfamily member 18 | Q9Y5U5 | 36 (12, 66) | 0.0052 | 0.0146 | * |
| Tumor necrosis factor receptor superfamily member 19 | Q9NS68 | 46 (12, 91) | 0.0096 | 0.0221 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Tumor necrosis factor receptor superfamily member 19L | Q969Z4 | 132 (49, 262) | 0.0016 | 0.0111 | * |
| Tumor necrosis factor receptor superfamily member 1A | P19438 | 31 (15, 49) | 0.001 | 0.0111 | * |
| Tumor necrosis factor receptor superfamily member 1B | P20333 | 32 (14, 52) | 0.0018 | 0.0111 | * |
| Tumor necrosis factor receptor superfamily member 21 | O75509 | 36 (15, 61) | 0.0018 | 0.0111 | * |
| Tumor necrosis factor receptor superfamily member 3 | P36941 | 38 (7, 80) | 0.019 | 0.0375 | * |
| Tumor necrosis factor receptor superfamily member 6 | P25445 | 28 (12, 47) | 0.0017 | 0.0111 | * |
| Tumor necrosis factor receptor superfamily member 9 | Q07011 | 27 (5, 53) | 0.0195 | 0.0383 | * |
| Tyrosine-protein kinase Fer | P16591 | 177 (47, 422) | 0.0046 | 0.0136 | * |
| Tyrosine-protein kinase JAK2 | O60674 | 26 (9, 46) | 0.0052 | 0.0146 | * |
| Tyrosine-protein kinase Lyn, isoform B | P07948 | 146 (51, 301) | 0.0019 | 0.0111 | * |
| Tyrosine-protein kinase receptor Tie-1, soluble | P35590 | 40 (18, 65) | 0.001 | 0.0111 | * |
| Tyrosine-protein kinase receptor TYRO3 | Q06418 | 186 (59, 416) | 0.0024 | 0.0111 | * |
| Tyrosine-protein kinase transmembrane receptor ROR1 | Q01973 | 49 (23, 79) | 0.0007 | 0.0111 | * |
| Tyrosine-protein phosphatase non-receptor type 11 | Q06124 | 171 (68, 335) | 0.0007 | 0.0111 | * |
| Tyrosine-protein phosphatase non-receptor type substrate 1 | P78324 | 111 (14, 292) | 0.022 | 0.0419 | * |
| Ubiquitin-fold modifier 1 | P61960 | 215 (69, 488) | 0.0019 | 0.0111 | * |
| Ubiquitin-fold modifier-conjugating enzyme 1 | Q9Y3C8 | 114 (40, 225) | 0.0022 | 0.0111 | * |
| Ubiquitin-like protein ISG15 | P05161 | 94 (36, 176) | 0.0017 | 0.0111 | * |
| Urokinase plasminogen activator surface receptor | Q03405 | 98 (37, 187) | 0.0019 | 0.0111 | * |
| Urokinase-type plasminogen activator | P00749 | 18 (0, 40) | 0.0494 | 0.0798 | |
| Vascular cell adhesion protein 1 | P19320 | 40 (17, 67) | 0.0017 | 0.0111 | * |
| Vascular endothelial growth factor A | P15692 | 38 (8, 75) | 0.0133 | 0.0284 | * |
| Vascular endothelial growth factor D | O43915 | 29 (12, 48) | 0.0022 | 0.0111 | * |
| Vascular endothelial growth factor receptor 2 | P35968 | 31 (11, 54) | 0.0041 | 0.0128 | * |
| Vascular endothelial growth factor receptor 3 | P35916 | 38 (17, 64) | 0.0015 | 0.0111 | * |
| Vitamin K-dependent protein S | P07225 | 11 (3, 19) | 0.0106 | 0.0237 | * |
| WAP, Kazal, immunoglobulin, Kunitz and NTR domain-containing protein 2 | Q8TEU8 | 90 (30, 177) | 0.0032 | 0.012 | * |
| Wnt inhibitory factor 1 | Q9Y5W5 | 74 (17, 158) | 0.0108 | 0.0239 | * |
| X-ray repair cross-complementing protein 6 | P12956 | 51 (3, 120) | 0.0359 | 0.0614 | |
| Xaa-Pro aminopeptidase 1 | Q9NQW7 | 513 (168, 1304) | 0.0005 | 0.0111 | * |

**Supplemental Table 2.** Proteins significantly decreased in relative abundance in the umbilical vein as compared to the umbilical artery representing uptake by the placenta in neonates ≤32 weeks of gestation (N=12) using the SomaLogic platform (p value ≤ 0.05). *significant following multiple comparisons with adjusted p-value of ≤0.05. CI, Confidence Interval

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| 14-3-3 protein beta/alpha | P31946 | -46 (-64, -19) | 0.007 | 0.018 | * |
| 14-3-3 protein family | P31946.P62258.P61981.Q04917.P27348.P63104.P31947 | -36 (-55, -8) | 0.0206 | 0.0397 | * |
| 14-3-3 protein sigma | P31947 | -29 (-47, -5) | 0.0264 | 0.048 | * |
| 14-3-3 protein theta | P27348 | -13 (-23, -2) | 0.0293 | 0.0519 | |
| 14-3-3 protein zeta/delta | P63104 | -33 (-51, -9) | 0.014 | 0.0292 | * |
| 15-hydroxyprostaglandin dehydrogenase [NAD(+)] | P15428 | -38 (-56, -13) | 0.0104 | 0.0235 | * |
| 3-hydroxyisobutyrate dehydrogenase, mitochondrial | P31937 | -28 (-37, -17) | 0.0004 | 0.0111 | * |
| 40S ribosomal protein S3 | P23396 | -83 (-94, -50) | 0.0041 | 0.0128 | * |
| 6-phosphogluconate dehydrogenase, decarboxylating | P52209 | -76 (-89, -48) | 0.0019 | 0.0111 | * |
| A disintegrin and metalloproteinase with thrombospondin motifs 1 | Q9UHI8 | -32 (-43, -18) | 0.0008 | 0.0111 | * |
| A disintegrin and metalloproteinase with thrombospondin motifs 15 | Q8TE58 | -23 (-31, -13) | 0.0004 | 0.0111 | * |
| A disintegrin and metalloproteinase with thrombospondin motifs 5 | Q9UNA0 | -30 (-42, -14) | 0.0025 | 0.0111 | * |
| Acid sphingomyelinase-like phosphodiesterase 3a | Q92484 | -31 (-49, -6) | 0.0219 | 0.0417 | * |
| Adenylate kinase isoenzyme 1 | P00568 | -63 (-78, -39) | 0.0013 | 0.0111 | * |
| ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 1 | P28907 | -22 (-31, -11) | 0.0015 | 0.0111 | * |
| Aflatoxin B1 aldehyde reductase member 2 | O43488 | -67 (-82, -41) | 0.0015 | 0.0111 | * |
| AH receptor-interacting protein | O00170 | -31 (-50, -7) | 0.0204 | 0.0394 | * |
| Alcohol dehydrogenase [NADP(+)] | P14550 | -50 (-67, -22) | 0.0051 | 0.0146 | * |
| Allograft inflammatory factor 1 | P55008 | -32 (-52, -3) | 0.0373 | 0.0633 | |
| Alpha-enolase | P06733 | -53 (-71, -25) | 0.0043 | 0.0132 | * |
| Alpha-soluble NSF attachment protein | P54920 | -61 (-76, -34) | 0.002 | 0.0111 | * |
| AMP Kinase (alpha1beta1gamma1) | Q13131.Q9Y478.P54619 | -32 (-44, -16) | 0.0016 | 0.0111 | * |
| Amphiregulin | P15514 | -62 (-77, -37) | 0.0013 | 0.0111 | * |
| Angiopoietin-4 | Q9Y264 | -22 (-33, -10) | 0.0029 | 0.0116 | * |
| Angiopoietin-related protein 3 | Q9Y5C1 | -26 (-37, -12) | 0.0025 | 0.0111 | * |
| Angiotensin-converting enzyme 2 | Q9BYF1 | -46 (-61, -26) | 0.0013 | 0.0111 | * |
| Annexin A5 | P08758 | -21 (-37, -1) | 0.042 | 0.0695 | |
| Anterior gradient protein 2 homolog | O95994 | -39 (-52, -21) | 0.0013 | 0.0111 | * |
| Apoptosis regulator Bcl-2 | P10415 | -48 (-62, -29) | 0.0007 | 0.0111 | * |
| Artemin | Q5T4W7 | -7 (-13, -1) | 0.026 | 0.0474 | * |
| AT-rich interactive domain-containing protein 3A | Q99856 | -48 (-63, -28) | 0.0013 | 0.0111 | * |
| Aurora kinase A | O14965 | -14 (-22, -4) | 0.0107 | 0.0238 | * |
| Aurora kinase B | Q96GD4 | -17 (-28, -4) | 0.0147 | 0.0304 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Azurocidin | P20160 | -43 (-59, -19) | 0.0042 | 0.0129 | * |
| B-cell receptor CD22 | P20273 | -28 (-39, -15) | 0.0011 | 0.0111 | * |
| Bactericidal permeability-increasing protein | P17213 | -39 (-62, -3) | 0.0401 | 0.0668 | |
| Baculoviral IAP repeat-containing protein 5 | O15392 | -22 (-32, -10) | 0.0031 | 0.0118 | * |
| Baculoviral IAP repeat-containing protein 7 Isoform beta | Q96CA5 | -14 (-23, -3) | 0.0203 | 0.0394 | * |
| Basigin | P35613 | -17 (-31, -1) | 0.0377 | 0.0637 | |
| Bcl-2-related protein A1 | Q16548 | -37 (-55, -13) | 0.0103 | 0.0232 | * |
| Bcl2-associated agonist of cell death | Q92934 | -54 (-70, -28) | 0.0027 | 0.0114 | * |
| Beta-Ala-His dipeptidase | Q96KN2 | -47 (-65, -19) | 0.0073 | 0.0184 | * |
| Bone morphogenetic protein receptor type-2 | Q13873 | -14 (-26, -1) | 0.0373 | 0.0633 | |
| Brain natriuretic peptide 32 | P16860 | -11 (-19, -2) | 0.0224 | 0.0425 | * |
| C-C motif chemokine 1 | P22362 | -12 (-21, -2) | 0.0226 | 0.0428 | * |
| C-C motif chemokine 2 | P13500 | -47 (-63, -22) | 0.0037 | 0.0124 | * |
| C-C motif chemokine 24 | O00175 | -20 (-32, -6) | 0.0103 | 0.0233 | * |
| C-C motif chemokine 27 | Q9Y4X3 | -28 (-42, -10) | 0.0076 | 0.0188 | * |
| C-type lectin domain family 7 member A | Q9BXN2 | -23 (-36, -6) | 0.0146 | 0.0303 | * |
| C-X-C motif chemokine 11 | O14625 | -55 (-79, -6) | 0.0371 | 0.0631 | |
| C-X-C motif chemokine 13 | O43927 | -27 (-43, -6) | 0.0204 | 0.0394 | * |
| C-X-C motif chemokine 5 | P42830 | -25 (-41, -4) | 0.0266 | 0.0483 | * |
| Cadherin-12 | P55289 | -46 (-59, -29) | 0.0005 | 0.0111 | * |
| Cadherin-15 | P55291 | -20 (-33, -5) | 0.0172 | 0.0343 | * |
| Calcineurin | Q08209.P63098 | -32 (-52, -2) | 0.0388 | 0.065 | |
| Calcineurin subunit B type 1 | P63098 | -37 (-52, -17) | 0.0037 | 0.0124 | * |
| Calcium-dependent phospholipase A2 | P39877 | -31 (-44, -16) | 0.0017 | 0.0111 | * |
| Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase 1A | P54750 | -25 (-39, -7) | 0.0135 | 0.0286 | * |
| Calcium/calmodulin-dependent protein kinase kinase 1 | Q8N5S9 | -55 (-70, -32) | 0.0014 | 0.0111 | * |
| Calcium/calmodulin-dependent protein kinase type 1D | Q8IU85 | -41 (-55, -23) | 0.0013 | 0.0111 | * |
| Calcium/calmodulin-dependent protein kinase type II subunit beta | Q13554 | -28 (-47, -2) | 0.0396 | 0.0661 | |
| Calcium/calmodulin-dependent protein kinase type II subunit delta | Q13557 | -41 (-61, -12) | 0.0139 | 0.029 | * |
| Calpain I | P07384.P04632 | -47 (-64, -22) | 0.004 | 0.0127 | * |
| cAMP-regulated phosphoprotein 19 | P56211 | -49 (-66, -25) | 0.0031 | 0.0119 | * |
| Carbonic anhydrase 1 | P00915 | -64 (-79, -37) | 0.002 | 0.0111 | * |
| Carbonic anhydrase 13 | Q8N1Q1 | -18 (-31, -3) | 0.0253 | 0.0465 | * |
| Carbonic anhydrase 7 | P43166 | -11 (-19, -2) | 0.0171 | 0.0342 | * |
| Carbonic anhydrase-related protein 10 | Q9NS85 | -20 (-29, -9) | 0.0024 | 0.0111 | * |
| Carboxypeptidase B2 | Q96IY4 | -12 (-21, -3) | 0.0146 | 0.0303 | * |
| Casein kinase II 2-alpha:2-beta heterotetramer | P68400.P67870 | -65 (-80, -37) | 0.0021 | 0.0111 | * |
| Casein kinase II subunit alpha | P68400 | -59 (-75, -33) | 0.0021 | 0.0111 | * |
| Catalase | P04040 | -57 (-73, -32) | 0.002 | 0.0111 | * |
| CCAAT/enhancer-binding protein beta | P17676 | -35 (-56, -5) | 0.0293 | 0.0519 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| CD27 antigen | P26842 | -38 (-49, -25) | 0.0002 | 0.0111 | * |
| CD40 ligand | P29965 | -48 (-62, -28) | 0.001 | 0.0111 | * |
| CD63 antigen | P08962 | -30 (-45, -10) | 0.0101 | 0.023 | * |
| CD70 antigen | P32970 | -16 (-29, -1) | 0.0399 | 0.0664 | |
| cGMP-dependent 3',5'-cyclic phosphodiesterase | O00408 | -48 (-64, -25) | 0.0023 | 0.0111 | * |
| cGMP-inhibited 3',5'-cyclic phosphodiesterase A | Q14432 | -20 (-29, -9) | 0.0033 | 0.012 | * |
| Chloride intracellular channel protein 1 | O00299 | -50 (-69, -19) | 0.009 | 0.0211 | * |
| Choline/ethanolamine kinase | Q9Y259 | -34 (-51, -12) | 0.0084 | 0.0203 | * |
| Chromobox protein homolog 5 | P45973 | -19 (-29, -8) | 0.0042 | 0.0129 | * |
| Ciliary neurotrophic factor | P26441 | -16 (-30, 0) | 0.0467 | 0.0762 | |
| Clusterin | P10909 | -26 (-43, -3) | 0.0328 | 0.057 | |
| Coagulation factor VII | P08709 | -21 (-33, -6) | 0.0115 | 0.0253 | * |
| Cofilin-1 | P23528 | -37 (-60, 0) | 0.0483 | 0.0785 | |
| Collagen alpha-1(XXIII) chain | Q86Y22 | -13 (-22, -4) | 0.0112 | 0.0246 | * |
| Complement factor H-related protein 5 | Q9BXR6 | -55 (-72, -26) | 0.0044 | 0.0133 | * |
| Connective tissue growth factor | P29279 | -18 (-30, -5) | 0.0133 | 0.0284 | * |
| Connective tissue-activating peptide III | P02775 | -45 (-67, -8) | 0.0257 | 0.0468 | * |
| Copine-1 | Q99829 | -58 (-76, -24) | 0.0084 | 0.0202 | * |
| Corticosteroid-binding globulin | P08185 | -30 (-44, -13) | 0.0039 | 0.0127 | * |
| Cryptic protein | P0CG37 | -32 (-51, -5) | 0.027 | 0.0488 | * |
| Cyclin-dependent kinase 1:G2/mitotic-specific cyclin-B1 complex | P06493.P14635 | -33 (-50, -9) | 0.0149 | 0.0306 | * |
| Cyclin-dependent kinase 5:Cyclin-dependent kinase 5 activator 1 complex | Q00535.Q15078 | -16 (-26, -5) | 0.0113 | 0.0249 | * |
| Cyclin-dependent kinase 8:Cyclin-C complex | P49336.P24863 | -21 (-35, -4) | 0.0221 | 0.0419 | * |
| Cytokine receptor common subunit gamma | P31785 | -57 (-72, -32) | 0.0019 | 0.0111 | * |
| Cytokine receptor-like factor 2 | Q9HC73 | -39 (-52, -21) | 0.0014 | 0.0111 | * |
| Cytoplasmic tyrosine-protein kinase BMX | P51813 | -30 (-41, -17) | 0.0008 | 0.0111 | * |
| Cytosolic non-specific dipeptidase | Q96KP4 | -54 (-70, -29) | 0.0024 | 0.0111 | * |
| Cytotoxic and regulatory T-cell molecule | O95727 | -50 (-64, -30) | 0.0007 | 0.0111 | * |
| Desert hedgehog protein N-product | O43323 | -51 (-66, -29) | 0.0013 | 0.0111 | * |
| Desmoglein-1 | Q02413 | -7 (-12, -2) | 0.0107 | 0.0238 | * |
| Dickkopf-like protein 1 | Q9UK85 | -29 (-45, -8) | 0.0145 | 0.0303 | * |
| Dipeptidyl peptidase 2 | Q9UHL4 | -22 (-33, -9) | 0.004 | 0.0127 | * |
| DNA topoisomerase 1 | P11387 | -69 (-86, -35) | 0.0051 | 0.0146 | * |
| Drebrin-like protein | Q9UJU6 | -32 (-48, -12) | 0.0072 | 0.0182 | * |
| Dual specificity mitogen-activated protein kinase kinase 3 | P46734 | -40 (-59, -11) | 0.0155 | 0.0317 | * |
| Dual specificity tyrosine-phosphorylation-regulated kinase 3 | O43781 | -15 (-23, -6) | 0.0036 | 0.0124 | * |
| Ectonucleoside triphosphate diphosphohydrolase 1 | P49961 | -18 (-27, -7) | 0.0041 | 0.0128 | * |
| Ectonucleoside triphosphate diphosphohydrolase 3 | O75355 | -20 (-30, -9) | 0.0033 | 0.012 | * |
| EGF-containing fibulin-like extracellular matrix protein 1 | Q12805 | -24 (-35, -11) | 0.0024 | 0.0111 | * |
| Elongation factor 1-beta | P24534 | -52 (-68, -29) | 0.0018 | 0.0111 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Endothelial monocyte-activating polypeptide 2 | Q12904 | -22 (-40, 0) | 0.0481 | 0.0782 | |
| Epidermal growth factor receptor variant III | P00533 | -23 (-36, -8) | 0.0071 | 0.018 | * |
| Epiregulin | O14944 | -14 (-22, -4) | 0.0136 | 0.0286 | * |
| Erythropoietin receptor | P19235 | -39 (-53, -21) | 0.0015 | 0.0111 | * |
| Estradiol 17-beta-dehydrogenase 1 | P14061 | -29 (-48, -3) | 0.0353 | 0.0606 | |
| Estrogen receptor | P03372 | -48 (-62, -27) | 0.0013 | 0.0111 | * |
| Eukaryotic initiation factor 4A-III | P38919 | -61 (-78, -32) | 0.0035 | 0.0122 | * |
| Eukaryotic translation initiation factor 5A-1 | P63241 | -32 (-50, -8) | 0.0179 | 0.0357 | * |
| Fc receptor-like protein 3 | Q96P31 | -13 (-23, -2) | 0.0242 | 0.0452 | * |
| Fibroblast growth factor 10 | O15520 | -41 (-55, -22) | 0.0014 | 0.0111 | * |
| Fibroblast growth factor 16 | O43320 | -58 (-73, -36) | 0.0009 | 0.0111 | * |
| Fibroblast growth factor 2 | P09038 | -54 (-74, -19) | 0.0112 | 0.0246 | * |
| Fibroblast growth factor 4 | P08620 | -21 (-36, -3) | 0.0272 | 0.049 | * |
| Fibroblast growth factor 6 | P10767 | -45 (-59, -25) | 0.0012 | 0.0111 | * |
| Fibroblast growth factor 7 | P21781 | -55 (-70, -34) | 0.0009 | 0.0111 | * |
| Fibroblast growth factor 8 isoform A | P55075 | -53 (-68, -30) | 0.0014 | 0.0111 | * |
| Fibroblast growth factor 9 | P31371 | -17 (-24, -10) | 0.0006 | 0.0111 | * |
| Fibroblast growth factor receptor 3 | P22607 | -23 (-34, -11) | 0.0024 | 0.0111 | * |
| Fms-related tyrosine kinase 3 ligand | P49771 | -16 (-25, -5) | 0.0089 | 0.0211 | * |
| Follistatin | P19883 | -42 (-55, -26) | 0.0005 | 0.0111 | * |
| Fructose-bisphosphate aldolase A | P04075 | -28 (-40, -12) | 0.0033 | 0.012 | * |
| G2/mitotic-specific cyclin-B1 | P14635 | -25 (-37, -10) | 0.0041 | 0.0128 | * |
| Galectin-10 | Q05315 | -18 (-28, -7) | 0.0056 | 0.0154 | * |
| Galectin-4 | P56470 | -38 (-51, -21) | 0.0011 | 0.0111 | * |
| Galectin-7 | P47929 | -28 (-46, -6) | 0.022 | 0.0419 | * |
| Glial cell line-derived neurotrophic factor | P39905 | -11 (-17, -4) | 0.0052 | 0.0146 | * |
| Glial fibrillary acidic protein | P14136 | -9 (-16, -1) | 0.0324 | 0.0565 | |
| Glyceraldehyde-3-phosphate dehydrogenase | P04406 | -48 (-65, -23) | 0.0039 | 0.0127 | * |
| Glycogen synthase kinase-3 alpha/beta | P49840.P49841 | -30 (-51, -1) | 0.0446 | 0.0732 | |
| Glycylpeptide N-tetradecanoyltransferase 1 | P30419 | -35 (-55, -5) | 0.0287 | 0.0512 | |
| Glypican-6 | Q9Y625 | -25 (-37, -10) | 0.0045 | 0.0134 | * |
| Gro-beta/gamma | P19876.P19875 | -55 (-71, -28) | 0.0034 | 0.012 | * |
| Group 10 secretory phospholipase A2 | O15496 | -20 (-28, -10) | 0.0016 | 0.0111 | * |
| Growth-regulated alpha protein | P09341 | -32 (-52, -3) | 0.0376 | 0.0636 | |
| Growth/differentiation factor 5 | P43026 | -33 (-50, -10) | 0.0127 | 0.0275 | * |
| GTP-binding nuclear protein Ran | P62826 | -93 (-98, -76) | 0.0006 | 0.0111 | * |
| Heat shock cognate 71 kDa protein | P11142 | -31 (-51, -3) | 0.0334 | 0.0579 | |
| Heat shock protein beta-1 | P04792 | -54 (-73, -21) | 0.0083 | 0.02 | * |
| Heat shock protein HSP 90-alpha/beta | P07900.P08238 | -39 (-57, -11) | 0.0138 | 0.0289 | * |
| Heat shock protein HSP 90-beta | P08238 | -36 (-53, -14) | 0.0075 | 0.0188 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| HemK methyltransferase family member 2 | Q9Y5N5 | -40 (-60, -9) | 0.0195 | 0.0383 | * |
| Heparin-binding EGF-like growth factor | Q99075 | -34 (-49, -14) | 0.0058 | 0.0159 | * |
| Hepatoma-derived growth factor-related protein 2 | Q7Z4V5 | -44 (-63, -16) | 0.0093 | 0.0216 | * |
| Heterogeneous nuclear ribonucleoprotein A/B | Q99729 | -59 (-78, -24) | 0.0089 | 0.021 | * |
| Heterogeneous nuclear ribonucleoprotein Q | O60506 | -33 (-54, -2) | 0.0419 | 0.0695 | |
| Heterogeneous nuclear ribonucleoproteins A2/B1 | P22626 | -49 (-70, -15) | 0.0147 | 0.0305 | * |
| Hexokinase-2 | P52789 | -59 (-76, -28) | 0.0052 | 0.0146 | * |
| High affinity cAMP-specific 3',5'-cyclic phosphodiesterase 7A | Q13946 | -13 (-23, -3) | 0.0156 | 0.0317 | * |
| High mobility group protein B1 | P09429 | -57 (-77, -21) | 0.011 | 0.0243 | * |
| Histidine triad nucleotide-binding protein 1 | P49773 | -22 (-39, -1) | 0.0435 | 0.0716 | |
| Histone acetyltransferase type B catalytic subunit | O14929 | -66 (-83, -32) | 0.0058 | 0.0159 | * |
| Histone deacetylase 8 | Q9BY41 | -22 (-37, -3) | 0.0272 | 0.049 | * |
| Histone H1.2 | P16403 | -70 (-89, -18) | 0.0229 | 0.0431 | * |
| Histone H2A type 3 | Q7L7L0 | -43 (-65, -6) | 0.0313 | 0.0548 | |
| Histone-lysine N-methyltransferase EHMT2 | Q96KQ7 | -34 (-54, -5) | 0.0279 | 0.0499 | * |
| Hypoxia-inducible factor 1-alpha | Q16665 | -12 (-22, -1) | 0.0367 | 0.0626 | |
| Immunoglobulin alpha Fc receptor | P24071 | -16 (-26, -3) | 0.02 | 0.039 | * |
| Inducible T-cell costimulator | Q9Y6W8 | -29 (-48, -3) | 0.0344 | 0.0592 | |
| Inhibitor of growth protein 1 | Q9UK53 | -57 (-73, -31) | 0.0021 | 0.0111 | * |
| Inosine-5'-monophosphate dehydrogenase 2 | P12268 | -37 (-55, -11) | 0.0124 | 0.0268 | * |
| Insulin-like growth factor I | P05019 | -51 (-68, -25) | 0.0037 | 0.0124 | * |
| Intercellular adhesion molecule 2 | P13598 | -52 (-72, -21) | 0.0087 | 0.0208 | * |
| Interferon alpha-2 | P01563 | -21 (-36, -2) | 0.0342 | 0.0591 | |
| Interferon lambda-1 | Q8IU54 | -49 (-64, -29) | 0.0011 | 0.0111 | * |
| Interferon regulatory factor 1 | P10914 | -53 (-75, -14) | 0.0197 | 0.0386 | * |
| Interleukin-11 | P20809 | -32 (-45, -17) | 0.0016 | 0.0111 | * |
| Interleukin-12 | P29459.P29460 | -9 (-16, 0) | 0.048 | 0.0782 | |
| Interleukin-13 | P35225 | -25 (-35, -14) | 0.001 | 0.0111 | * |
| Interleukin-17F | Q96PD4 | -22 (-32, -10) | 0.0022 | 0.0111 | * |
| Interleukin-18 receptor accessory protein | O95256 | -31 (-44, -15) | 0.0025 | 0.0111 | * |
| Interleukin-2 receptor subunit alpha | P01589 | -11 (-21, 0) | 0.0485 | 0.0788 | |
| Interleukin-22 | Q9GZX6 | -30 (-45, -12) | 0.0058 | 0.0158 | * |
| Interleukin-22 receptor subunit alpha-1 | Q8N6P7 | -22 (-36, -4) | 0.0251 | 0.0464 | * |
| Interleukin-23 receptor | Q5VWK5 | -41 (-55, -24) | 0.0008 | 0.0111 | * |
| Interleukin-3 receptor subunit alpha | P26951 | -53 (-68, -32) | 0.0009 | 0.0111 | * |
| Interleukin-37 | Q9NZH6 | -20 (-33, -4) | 0.0198 | 0.0386 | * |
| Interleukin-4 | P05112 | -33 (-45, -18) | 0.001 | 0.0111 | * |
| Interleukin-5 | P05113 | -10 (-19, -1) | 0.0382 | 0.0644 | |
| Interleukin-7 receptor subunit alpha | P16871 | -15 (-26, -3) | 0.0206 | 0.0397 | * |
| Junctional adhesion molecule C | Q9BX67 | -21 (-35, -5) | 0.0187 | 0.037 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Kallikrein-14 | Q9P0G3 | -20 (-32, -6) | 0.012 | 0.0261 | * |
| Kallikrein-4 | Q9Y5K2 | -18 (-27, -7) | 0.0062 | 0.0166 | * |
| Keratin, type I cytoskeletal 18 | P05783 | -42 (-56, -22) | 0.0016 | 0.0111 | * |
| Killer cell immunoglobulin-like receptor 2DL4 | Q99706 | -46 (-65, -16) | 0.0105 | 0.0235 | * |
| Killer cell immunoglobulin-like receptor 3DS1 | Q14943 | -24 (-36, -9) | 0.007 | 0.018 | * |
| Killer cell lectin-like receptor subfamily F member 1 | Q9NZS2 | -22 (-33, -9) | 0.0041 | 0.0128 | * |
| Kin of IRRE-like protein 3 | Q8IZU9 | -17 (-28, -5) | 0.0128 | 0.0275 | * |
| Kinesin-like protein KIF23 | Q02241 | -57 (-72, -33) | 0.0013 | 0.0111 | * |
| Kininogen-1 | P01042 | -26 (-39, -11) | 0.0038 | 0.0125 | * |
| Kremen protein 2 | Q8NCW0 | -47 (-61, -28) | 0.0008 | 0.0111 | * |
| Kynureninase | Q16719 | -35 (-51, -13) | 0.0076 | 0.0188 | * |
| L-lactate dehydrogenase B chain | P07195 | -44 (-59, -24) | 0.0015 | 0.0111 | * |
| Lamin-B1 | P20700 | -28 (-39, -16) | 0.001 | 0.0111 | * |
| Laminin | P25391.P07942.P11047 | -28 (-40, -14) | 0.0018 | 0.0111 | * |
| Leucine-rich repeat serine/threonine-protein kinase 2 | Q5S007 | -27 (-45, -2) | 0.0368 | 0.0626 | |
| Leucine-rich repeat transmembrane protein FLRT1 | Q9NZU1 | -47 (-60, -29) | 0.0006 | 0.0111 | * |
| Leukocyte surface antigen CD47 | Q08722 | -47 (-61, -29) | 0.0006 | 0.0111 | * |
| Luteinizing hormone | P01215.P01229 | -44 (-61, -18) | 0.0059 | 0.016 | * |
| Lymphocyte antigen 86 | O95711 | -29 (-44, -9) | 0.0106 | 0.0237 | * |
| Lymphotactin | P47992 | -18 (-30, -3) | 0.027 | 0.0488 | * |
| Macrophage migration inhibitory factor | P14174 | -43 (-60, -19) | 0.0053 | 0.0148 | * |
| Macrophage-stimulating protein receptor | Q04912 | -25 (-41, -5) | 0.0229 | 0.0431 | * |
| Malate dehydrogenase, cytoplasmic | P40925 | -52 (-69, -26) | 0.0033 | 0.012 | * |
| Mammaglobin-B | O75556 | -19 (-32, -3) | 0.0252 | 0.0464 | * |
| MAP kinase-activated protein kinase 2 | P49137 | -38 (-58, -10) | 0.0169 | 0.034 | * |
| Matrix extracellular phosphoglycoprotein | Q9NQ76 | -27 (-36, -17) | 0.0002 | 0.0111 | * |
| Megakaryocyte-associated tyrosine-protein kinase | P42679 | -17 (-29, -3) | 0.0252 | 0.0464 | * |
| Membrane frizzled-related protein | Q9BY79 | -40 (-54, -20) | 0.002 | 0.0111 | * |
| Mesothelin | Q13421 | -42 (-56, -23) | 0.0013 | 0.0111 | * |
| Methionine aminopeptidase 1 | P53582 | -42 (-60, -15) | 0.0096 | 0.0221 | * |
| Methionine aminopeptidase 2 | P50579 | -49 (-67, -20) | 0.0066 | 0.0172 | * |
| Methyl-CpG-binding domain protein 4 | O95243 | -37 (-50, -21) | 0.001 | 0.0111 | * |
| Mitochondrial glutamate carrier 2 | Q9H1K4 | -20 (-29, -8) | 0.0036 | 0.0123 | * |
| Mitochondrial import inner membrane translocase subunit TIM14 | Q96DA6 | -27 (-36, -18) | 0.0001 | 0.0111 | * |
| Mitogen-activated protein kinase 1 | P28482 | -51 (-70, -20) | 0.0088 | 0.0208 | * |
| Mitogen-activated protein kinase kinase kinase 7:TGF-beta-activated kinase 1 and MAP3K7-binding protein 1 fusion | O43318.Q15750 | -33 (-52, -7) | 0.0228 | 0.043 | * |
| Mothers against decapentaplegic homolog 2 | Q15796 | -51 (-68, -24) | 0.0042 | 0.0129 | * |
| Mothers against decapentaplegic homolog 3 | P84022 | -32 (-51, -5) | 0.0289 | 0.0514 | |
| N-acetyl-D-glucosamine kinase | Q9UJ70 | -47 (-67, -15) | 0.0133 | 0.0284 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| NAD-dependent protein deacetylase sirtuin-2 | Q8IXJ6 | -60 (-77, -31) | 0.0038 | 0.0125 | * |
| Natural killer cell receptor 2B4 | Q9BZW8 | -20 (-30, -8) | 0.0047 | 0.0136 | * |
| Netrin-1 | O95631 | -30 (-45, -11) | 0.0078 | 0.0194 | * |
| Neuregulin-4 | Q8WWG1 | -18 (-26, -8) | 0.0022 | 0.0111 | * |
| Neutrophil-activating peptide 2 | P02775 | -44 (-66, -8) | 0.0254 | 0.0465 | * |
| NKG2-D type II integral membrane protein | P26718 | -20 (-28, -10) | 0.0017 | 0.0111 | * |
| NKG2D ligand 3 | Q9BZM4 | -24 (-37, -9) | 0.0066 | 0.0173 | * |
| Non-histone chromosomal protein HMG-14 | P05114 | -65 (-84, -27) | 0.0093 | 0.0216 | * |
| Nucleoside diphosphate kinase A | P15531 | -27 (-44, -5) | 0.0246 | 0.0457 | * |
| Oncostatin-M | P13725 | -25 (-41, -4) | 0.0242 | 0.0452 | * |
| Osteocalcin | P02818 | -22 (-38, -3) | 0.0307 | 0.0539 | |
| Peptidyl-prolyl cis-trans isomerase A | P62937 | -29 (-43, -11) | 0.0069 | 0.0178 | * |
| Peptidyl-prolyl cis-trans isomerase D | Q08752 | -60 (-78, -27) | 0.0066 | 0.0173 | * |
| Peroxiredoxin-1 | Q06830 | -66 (-81, -39) | 0.002 | 0.0111 | * |
| Peroxiredoxin-6 | P30041 | -71 (-85, -44) | 0.0016 | 0.0111 | * |
| Persulfide dioxygenase ETHE1, mitochondrial | O95571 | -19 (-33, -3) | 0.0295 | 0.0522 | |
| Pescadillo homolog | O00541 | -38 (-55, -15) | 0.0066 | 0.0172 | * |
| Phosphatidylethanolamine-binding protein 1 | P30086 | -52 (-69, -27) | 0.003 | 0.0116 | * |
| Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit gamma isoform | P48736 | -12 (-22, -1) | 0.0334 | 0.0579 | |
| Phosphoglucomutase-1 | P36871 | -13 (-21, -4) | 0.0074 | 0.0186 | * |
| Plasmin | P00747 | -17 (-26, -8) | 0.0033 | 0.012 | * |
| Platelet endothelial cell adhesion molecule | P16284 | -16 (-29, -1) | 0.0364 | 0.0621 | |
| Platelet factor 4 | P02776 | -71 (-90, -17) | 0.0255 | 0.0465 | * |
| Platelet receptor Gi24 | Q9H7M9 | -29 (-45, -8) | 0.0136 | 0.0286 | * |
| PolyUbiquitin K48-linked | P0CG47 | -64 (-80, -37) | 0.0019 | 0.0111 | * |
| Programmed cell death 1 ligand 2 | Q9BQ51 | -37 (-53, -16) | 0.0052 | 0.0146 | * |
| Proliferating cell nuclear antigen | P12004 | -16 (-25, -5) | 0.007 | 0.018 | * |
| Proliferation-associated protein 2G4 | Q9UQ80 | -64 (-80, -38) | 0.0019 | 0.0111 | * |
| Prostaglandin G/H synthase 2 | P35354 | -48 (-70, -10) | 0.0229 | 0.0431 | * |
| Proteasome activator complex subunit 1 | Q06323 | -50 (-68, -22) | 0.0056 | 0.0155 | * |
| Proteasome subunit alpha type-1 | P25786 | -24 (-36, -9) | 0.0057 | 0.0158 | * |
| Proteasome subunit alpha type-6 | P60900 | -51 (-65, -31) | 0.0006 | 0.0111 | * |
| Protein 4.1 | P11171 | -60 (-79, -26) | 0.0073 | 0.0183 | * |
| Protein disulfide-isomerase | P07237 | -11 (-17, -4) | 0.0082 | 0.0199 | * |
| Protein disulfide-isomerase A3 | P30101 | -23 (-37, -6) | 0.0153 | 0.0313 | * |
| Protein E7_HPV18 | P06788 | -17 (-27, -4) | 0.0133 | 0.0284 | * |
| Protein FAM107A | O95990 | -31 (-43, -18) | 0.0007 | 0.0111 | * |
| Protein kinase C beta type (splice variant beta-II) | P05771 | -41 (-65, -2) | 0.0414 | 0.0687 | |
| Protein kinase C iota type | P41743 | -57 (-73, -33) | 0.0017 | 0.0111 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Protein NOV homolog | P48745 | -26 (-39, -12) | 0.0032 | 0.012 | * |
| Protein S100-A4 | P26447 | -62 (-79, -31) | 0.0043 | 0.013 | * |
| Protein S100-A6 | P06703 | -68 (-82, -41) | 0.0016 | 0.0111 | * |
| Protein SET | Q01105 | -16 (-29, -2) | 0.0348 | 0.0598 | |
| Proto-oncogene vav | P15498 | -54 (-72, -24) | 0.0058 | 0.0159 | * |
| Pulmonary surfactant-associated protein D | P35247 | -62 (-80, -27) | 0.0078 | 0.0194 | * |
| Pyridoxal phosphate phosphatase | Q96GD0 | -60 (-76, -35) | 0.0016 | 0.0111 | * |
| Pyruvate kinase PKM | P14618 | -46 (-66, -14) | 0.0148 | 0.0305 | * |
| R-spondin-2 | Q6UXX9 | -48 (-65, -24) | 0.0033 | 0.012 | * |
| Rab GDP dissociation inhibitor beta | P50395 | -54 (-71, -27) | 0.0032 | 0.012 | * |
| RAC-alpha/beta/gamma serine/threonine-protein kinase | P31749.P31751.Q9Y243 | -29 (-48, -4) | 0.0288 | 0.0514 | |
| Ras-related C3 botulinum toxin substrate 1 | P63000 | -52 (-70, -24) | 0.0047 | 0.0138 | * |
| Receptor-type tyrosine-protein kinase FLT3 | P36888 | -42 (-64, -5) | 0.0325 | 0.0566 | |
| Relaxin receptor 1 | Q9HBX9 | -30 (-42, -16) | 0.0014 | 0.0111 | * |
| Retinoblastoma-associated protein | P06400 | -22 (-32, -11) | 0.0017 | 0.0111 | * |
| Ribonuclease H1 | O60930 | -53 (-76, -11) | 0.0248 | 0.046 | * |
| Ribosomal protein S6 kinase alpha-5 | O75582 | -52 (-67, -31) | 0.0011 | 0.0111 | * |
| Ribosome maturation protein SBDS | Q9Y3A5 | -36 (-54, -11) | 0.0119 | 0.026 | * |
| S-phase kinase-associated protein 1 | P63208 | -47 (-61, -28) | 0.0007 | 0.0111 | * |
| Secreted and transmembrane protein 1 | Q8WVN6 | -18 (-31, -3) | 0.0271 | 0.0488 | * |
| Seizure 6-like protein 2 | Q6UXD5 | -57 (-71, -34) | 0.0011 | 0.0111 | * |
| Semaphorin-3A | Q14563 | -49 (-64, -30) | 0.0009 | 0.0111 | * |
| Serine protease 27 | Q9BQR3 | -24 (-41, -2) | 0.0386 | 0.0649 | |
| Serine/threonine-protein kinase Chk1 | O14757 | -38 (-54, -17) | 0.0045 | 0.0134 | * |
| Serine/threonine-protein kinase PAK 3 | O75914 | -23 (-35, -7) | 0.0089 | 0.0211 | * |
| Serine/threonine-protein kinase PAK 6 | Q9NQU5 | -61 (-77, -36) | 0.0017 | 0.0111 | * |
| Serine/threonine-protein kinase PAK 7 | Q9P286 | -21 (-31, -10) | 0.0026 | 0.0111 | * |
| Serine/threonine-protein kinase pim-1 | P11309 | -27 (-37, -14) | 0.0011 | 0.0111 | * |
| Serine/threonine-protein kinase receptor R3 | P37023 | -28 (-39, -15) | 0.0014 | 0.0111 | * |
| Serine/threonine-protein kinase TBK1 | Q9UHD2 | -33 (-46, -16) | 0.0025 | 0.0111 | * |
| Serine/threonine-protein kinase WNK3 | Q9BYP7 | -25 (-43, -1) | 0.0455 | 0.0744 | |
| Serotransferrin | P02787 | -11 (-19, -4) | 0.0091 | 0.0213 | * |
| Serum paraoxonase/arylesterase 1 | P27169 | -32 (-51, -6) | 0.0247 | 0.0458 | * |
| Signal transducer and activator of transcription 1-alpha/beta | P42224 | -59 (-77, -26) | 0.0068 | 0.0174 | * |
| Signal transducer and activator of transcription 3 | P40763 | -41 (-61, -10) | 0.0192 | 0.0378 | * |
| SLIT and NTRK-like protein 1 | Q96PX8 | -15 (-24, -6) | 0.0044 | 0.0133 | * |
| Small ubiquitin-related modifier 3 | P55854 | -46 (-64, -18) | 0.0081 | 0.0197 | * |
| Sorting nexin-4 | O95219 | -33 (-54, -2) | 0.0385 | 0.0649 | |
| SPARC | P09486 | -14 (-24, -3) | 0.018 | 0.0359 | * |
| Sphingosine kinase 1 | Q9NYA1 | -41 (-61, -11) | 0.0168 | 0.0337 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Sphingosine kinase 2 | Q9NRA0 | -27 (-41, -10) | 0.0062 | 0.0166 | * |
| Stress-induced-phosphoprotein 1 | P31948 | -64 (-80, -37) | 0.0021 | 0.0111 | * |
| SUMO-conjugating enzyme UBC9 | P63279 | -56 (-74, -26) | 0.0053 | 0.0148 | * |
| Superoxide dismutase [Cu-Zn] | P00441 | -35 (-50, -16) | 0.0039 | 0.0127 | * |
| Synaptosomal-associated protein 25 | P60880 | -33 (-46, -17) | 0.0015 | 0.0111 | * |
| T-lymphocyte activation antigen CD80 | P33681 | -9 (-17, -1) | 0.0288 | 0.0514 | |
| TATA-box-binding protein | P20226 | -46 (-71, -1) | 0.0466 | 0.0761 | |
| Testican-1 | Q08629 | -56 (-73, -27) | 0.0041 | 0.0128 | * |
| Thrombospondin-1 | P07996 | -58 (-74, -30) | 0.0034 | 0.012 | * |
| Thymic stromal lymphopoietin | Q969D9 | -38 (-52, -22) | 0.001 | 0.0111 | * |
| Thyroid peroxidase | P07202 | -22 (-32, -11) | 0.0019 | 0.0111 | * |
| Transcription factor AP-1 | P05412 | -17 (-26, -7) | 0.0039 | 0.0127 | * |
| Transforming growth factor beta-2 | P61812 | -15 (-23, -6) | 0.0042 | 0.0129 | * |
| Transgelin-2 | P37802 | -19 (-32, -3) | 0.0254 | 0.0465 | * |
| Transketolase | P29401 | -49 (-66, -25) | 0.0029 | 0.0116 | * |
| Translationally-controlled tumor protein | P13693 | -59 (-76, -32) | 0.0027 | 0.0114 | * |
| Triosephosphate isomerase | P60174 | -58 (-74, -31) | 0.0025 | 0.0111 | * |
| Tropomyosin alpha-1 chain | P09493 | -33 (-45, -18) | 0.001 | 0.0111 | * |
| Tumor necrosis factor | P01375 | -13 (-22, -4) | 0.0123 | 0.0268 | * |
| Tumor necrosis factor ligand superfamily member 11 | O14788 | -20 (-32, -7) | 0.0096 | 0.0221 | * |
| Tumor necrosis factor ligand superfamily member 18 | Q9UNG2 | -15 (-25, -4) | 0.0136 | 0.0286 | * |
| Tumor-associated calcium signal transducer 2 | P09758 | -39 (-54, -18) | 0.003 | 0.0116 | * |
| Tyrosine-protein kinase BTK | Q06187 | -47 (-67, -16) | 0.0118 | 0.0257 | * |
| Tyrosine-protein kinase CSK | P41240 | -55 (-75, -21) | 0.0099 | 0.0225 | * |
| Tyrosine-protein phosphatase non-receptor type 1 | P18031 | -39 (-61, -6) | 0.0276 | 0.0494 | * |
| Ubiquitin | P62979 | -61 (-76, -38) | 0.0009 | 0.0111 | * |
| Ubiquitin-conjugating enzyme E2 L3 | P68036 | -56 (-70, -34) | 0.0009 | 0.0111 | * |
| Ubiquitin-conjugating enzyme E2 N | P61088 | -67 (-82, -39) | 0.0021 | 0.0111 | * |
| Ubiquitin+1, truncated mutation for UbB | P62979 | -66 (-81, -39) | 0.0017 | 0.0111 | * |
| UMP-CMP kinase | P30085 | -40 (-54, -22) | 0.0014 | 0.0111 | * |
| Vacuolar protein sorting-associated protein VTA1 homolog | Q9NP79 | -56 (-73, -29) | 0.0035 | 0.0122 | * |
| Vascular endothelial growth factor C | P49767 | -25 (-35, -14) | 0.0008 | 0.0111 | * |
| Vasoactive Intestinal Peptide | P01282 | -52 (-67, -30) | 0.0012 | 0.0111 | * |
| Vitamin K-dependent protein C | P04070 | -25 (-39, -8) | 0.0092 | 0.0214 | * |
| WNT1-inducible-signaling pathway protein 1 | O95388 | -52 (-69, -27) | 0.0028 | 0.0116 | * |
| WNT1-inducible-signaling pathway protein 3 | O95389 | -38 (-51, -21) | 0.0011 | 0.0111 | * |

**Supplemental Table 3.** Proteins significantly decreased in relative abundance in neonatal blood collected at 48-72 hours of life when compared to venous cord blood in neonates ≤ 32 weeks of gestation (N=25) using the SomaLogic platform (p value ≤ 0.05). *significant following multiple comparisons with adjusted p-value of ≤0.05. CI, Confidence Interval

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| 1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase gamma-1 | P19174 | -15 (-24, -4) | 0.0099 | 0.0489 | * |
| 14-3-3 protein theta | P27348 | -15 (-25, -5) | 0.007 | 0.038 | * |
| 26S proteasome non-ATPase regulatory subunit 7 | P51665 | -19 (-33, -2) | 0.0299 | 0.1026 | |
| 3-phosphoinositide-dependent protein kinase 1 | O15530 | -47 (-62, -25) | 0.001 | 0.0084 | * |
| 40S ribosomal protein S7 | P62081 | -27 (-45, -3) | 0.0289 | 0.1009 | |
| A disintegrin and metalloproteinase with thrombospondin motifs 4 | O75173 | -15 (-24, -5) | 0.0073 | 0.0396 | * |
| Activated Protein C | P04070.1 | -59 (-71, -42) | <0.0001 | 0.0004 | * |
| Activin receptor type-1B | P36896 | -29 (-46, -6) | 0.0188 | 0.0753 | |
| Adenylosuccinate lyase | P30566 | -53 (-72, -23) | 0.0048 | 0.0294 | * |
| Afamin | P43652 | -19 (-28, -8) | 0.0024 | 0.0175 | * |
| Alanine aminotransferase 1 | P24298 | -21 (-29, -12) | 0.0001 | 0.0019 | * |
| Alpha-1-antitrypsin | P01009 | -14 (-24, -3) | 0.0131 | 0.0603 | |
| Alpha-2-HS-glycoprotein | P02765 | -10 (-17, -3) | 0.0053 | 0.0316 | * |
| AMP Kinase (alpha2beta2gamma1) | P54646.O43741.P54619 | -37 (-55, -13) | 0.0071 | 0.0385 | * |
| Amyloid beta A4 protein | P05067 | -43 (-58, -24) | 0.0006 | 0.006 | * |
| Angiopoietin-1 receptor, soluble | Q02763 | -30 (-47, -7) | 0.0143 | 0.0628 | |
| Annexin A1 | P04083 | -82 (-90, -66) | <0.0001 | 0.0002 | * |
| Annexin A2 | P07355 | -71 (-83, -49) | 0.0001 | 0.0017 | * |
| Apolipoprotein D | P05090 | -24 (-37, -9) | 0.0056 | 0.033 | * |
| Apolipoprotein M | O95445 | -20 (-35, -1) | 0.0436 | 0.1319 | |
| Aspartate aminotransferase, cytoplasmic | P17174 | -18 (-32, -2) | 0.0285 | 0.1 | |
| ATP synthase subunit beta, mitochondrial | P06576 | -27 (-39, -12) | 0.0021 | 0.0155 | * |
| ATP-dependent RNA helicase DDX19B | Q9UMR2 | -30 (-41, -18) | 0.0001 | 0.0017 | * |
| BDNF/NT-3 growth factors receptor | Q16620 | -14 (-27, 0) | 0.0498 | 0.1445 | |
| Beta-2-microglobulin | P61769 | -20 (-27, -12) | 0.0001 | 0.0017 | * |
| C-C motif chemokine 5 | P13501 | -57 (-81, -3) | 0.0413 | 0.127 | |
| Cadherin-2 | P19022 | -12 (-18, -7) | 0.0004 | 0.0043 | * |
| Cadherin-5 | P33151 | -15 (-27, -1) | 0.0303 | 0.1033 | |
| Cadherin-6 | P55285 | -25 (-33, -17) | <0.0001 | 0.0002 | * |
| Calcium/calmodulin-dependent protein kinase type II subunit alpha | Q9UQM7 | -24 (-35, -10) | 0.0024 | 0.0176 | * |
| Calreticulin | P27797 | -18 (-22, -13) | <0.0001 | <0.0001 | * |
| Carbonic anhydrase 4 | P22748 | -14 (-22, -5) | 0.0025 | 0.0179 | * |
| Carboxypeptidase E | P16870 | -19 (-34, 0) | 0.0487 | 0.143 | |
| Cardiotrophin-1 | Q16619 | -31 (-48, -9) | 0.0111 | 0.0528 | |
| Cathepsin B | P07858 | -41 (-53, -26) | <0.0001 | 0.0009 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Cathepsin E | P14091 | -13 (-23, -2) | 0.0264 | 0.094 | |
| CD59 glycoprotein | P13987 | -38 (-44, -30) | <0.0001 | <0.0001 | * |
| Cell adhesion molecule 3 | Q8N126 | -32 (-51, -5) | 0.0229 | 0.0859 | |
| Cell surface glycoprotein CD200 receptor 1 | Q8TD46 | -15 (-25, -3) | 0.018 | 0.0734 | |
| Cellular tumor antigen p53 | P04637 | -23 (-34, -10) | 0.0014 | 0.0113 | * |
| Chitotriosidase-1 | Q13231 | -31 (-42, -17) | 0.0003 | 0.0036 | * |
| Choline/ethanolamine kinase | Q9Y259 | -43 (-54, -29) | <0.0001 | 0.0004 | * |
| Chorionic somatomammotropin hormone | P0DML2.P0DML3 | -69 (-79, -54) | <0.0001 | 0.0001 | * |
| Chromogranin-A | P10645 | -41 (-53, -25) | 0.0001 | 0.0017 | * |
| Chymase | P23946 | -34 (-49, -15) | 0.0023 | 0.0168 | * |
| Clusterin | P10909 | -27 (-39, -13) | 0.0012 | 0.0098 | * |
| Coagulation Factor X | P00742 | -11 (-18, -3) | 0.0085 | 0.0434 | * |
| Coagulation factor Xa | P00742 | -11 (-19, -3) | 0.0135 | 0.0609 | |
| Collectin-12 | Q5KU26 | -60 (-83, -5) | 0.0383 | 0.1221 | |
| COMM domain-containing protein 7 | Q86VX2 | -23 (-32, -12) | 0.0004 | 0.0043 | * |
| Complement component 1 Q subcomponent-binding protein, mitochondrial | Q07021 | -23 (-33, -10) | 0.0014 | 0.0113 | * |
| Complement factor D | P00746 | -22 (-34, -7) | 0.0068 | 0.0376 | * |
| Connective tissue-activating peptide III | P02775.1 | -61 (-82, -15) | 0.0188 | 0.0753 | |
| Contactin-1 | Q12860 | -22 (-31, -11) | 0.0005 | 0.005 | * |
| Creatine kinase B-type | P12277 | -32 (-44, -16) | 0.0006 | 0.0062 | * |
| Cyclin-dependent kinase 1:G2/mitotic-specific cyclin-B1 complex | P06493.P14635 | -20 (-36, 0) | 0.0471 | 0.1402 | |
| Cyclin-dependent kinase 2:Cyclin-A2 complex | P24941.P20248 | -31 (-49, -8) | 0.014 | 0.0623 | |
| Cystatin-C | P01034 | -20 (-26, -14) | <0.0001 | <0.0001 | * |
| Cysteine-rich secretory protein 3 | P54108 | -24 (-39, -3) | 0.0247 | 0.0892 | |
| Cytokine receptor-like factor 1:Cardiotrophin-like cytokine factor 1 Complex | O75462.Q9UBD9 | -17 (-27, -5) | 0.0088 | 0.0446 | * |
| Cytoplasmic protein NCK1 | P16333 | -10 (-18, -2) | 0.0203 | 0.0785 | |
| Death-associated protein kinase 2 | Q9UIK4 | -25 (-38, -9) | 0.0063 | 0.0357 | * |
| Decorin | P07585 | -25 (-39, -7) | 0.0104 | 0.0504 | |
| Desmocollin-2 | Q02487 | -20 (-32, -5) | 0.0104 | 0.0504 | |
| Dickkopf-like protein 1 | Q9UK85 | -23 (-38, -3) | 0.0235 | 0.0864 | |
| Dipeptidyl peptidase 1 | P53634 | -6 (-11, -1) | 0.0186 | 0.075 | |
| Down syndrome cell adhesion molecule | O60469 | -20 (-34, -5) | 0.0139 | 0.0623 | |
| Dual specificity mitogen-activated protein kinase kinase 2 | P36507 | -14 (-25, -1) | 0.0406 | 0.1262 | |
| Dual specificity mitogen-activated protein kinase kinase 4 | P45985 | -18 (-31, -3) | 0.0205 | 0.0789 | |
| Dual specificity protein phosphatase 3 | P51452 | -40 (-53, -23) | 0.0003 | 0.004 | * |
| Dynactin subunit 2 | Q13561 | -37 (-43, -29) | <0.0001 | <0.0001 | * |
| Dynein light chain roadblock-type 1 | Q9NP97 | -55 (-70, -33) | 0.0004 | 0.0046 | * |
| E3 ubiquitin-protein ligase ZNRF3 | Q9ULT6 | -10 (-18, -1) | 0.035 | 0.1142 | |
| Endoplasmic reticulum resident protein 29 | P30040 | -49 (-56, -42) | <0.0001 | <0.0001 | * |
| Endothelial cell-selective adhesion molecule | Q96AP7 | -15 (-26, -3) | 0.0155 | 0.0665 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Ephrin type-A receptor 1 | P21709 | -54 (-77, -7) | 0.0309 | 0.1051 | |
| Ephrin type-A receptor 10 | Q5JZY3 | -10 (-19, 0) | 0.0485 | 0.143 | |
| Ephrin type-A receptor 5 | P54756 | -40 (-64, 0) | 0.0488 | 0.1431 | |
| Ephrin type-B receptor 4 | P54760 | -24 (-30, -17) | <0.0001 | <0.0001 | * |
| Ephrin type-B receptor 6 | O15197 | -21 (-31, -10) | 0.0012 | 0.0097 | * |
| Ephrin-A2 | O43921 | -16 (-26, -5) | 0.0069 | 0.038 | * |
| Ephrin-B1 | P98172 | -25 (-32, -17) | <0.0001 | 0.0001 | * |
| Ephrin-B2 | P52799 | -74 (-92, -11) | 0.0332 | 0.1097 | |
| Erythropoietin | P01588 | -50 (-71, -16) | 0.011 | 0.0527 | |
| Eukaryotic translation initiation factor 4 gamma 2 | P78344 | -53 (-75, -13) | 0.0187 | 0.0753 | |
| Eukaryotic translation initiation factor 4H | Q15056 | -61 (-85, -1) | 0.0481 | 0.142 | |
| Extracellular matrix protein 1 | Q16610 | -12 (-22, -3) | 0.0179 | 0.0734 | |
| Fatty acid-binding protein, heart | P05413 | -27 (-42, -10) | 0.006 | 0.0345 | * |
| Fatty acid-binding protein, liver | P07148 | -46 (-68, -9) | 0.0228 | 0.0859 | |
| Fetuin-B | Q9UGM5 | -25 (-36, -13) | 0.0007 | 0.0067 | * |
| Fibroblast growth factor 1 | P05230 | -56 (-67, -41) | <0.0001 | 0.0001 | * |
| Fibroblast growth factor 12 | P61328 | -24 (-39, -5) | 0.0175 | 0.0725 | |
| Fibroblast growth factor 2 | P09038 | -36 (-50, -19) | 0.0006 | 0.0062 | * |
| Fibroblast growth factor 23 | Q9GZV9 | -55 (-73, -24) | 0.0044 | 0.027 | * |
| Fibroblast growth factor receptor 1 | P11362 | -18 (-26, -9) | 0.0004 | 0.0046 | * |
| Fibronectin | P02751 | -21 (-33, -6) | 0.0093 | 0.0465 | * |
| Fibronectin Fragment 3 | P02751 | -19 (-29, -9) | 0.0018 | 0.014 | * |
| Ficolin-2 | Q15485 | -15 (-25, -5) | 0.0075 | 0.04 | * |
| Formimidoyltransferase-cyclodeaminase | O95954 | -40 (-61, -9) | 0.0199 | 0.0777 | |
| Galectin-3-binding protein | Q08380 | -36 (-49, -20) | 0.0003 | 0.0039 | * |
| Glia-derived nexin | P07093 | -26 (-39, -9) | 0.0065 | 0.0365 | * |
| Glucokinase regulatory protein | Q14397 | -13 (-21, -5) | 0.005 | 0.0298 | * |
| Glutathione S-transferase A3 | Q16772 | -47 (-68, -12) | 0.0158 | 0.0669 | |
| Glutathione S-transferase P | P09211 | -52 (-70, -23) | 0.0041 | 0.0259 | * |
| Glypican-2 | Q8N158 | -14 (-24, -1) | 0.0298 | 0.1026 | |
| Granulocyte colony-stimulating factor | P09919 | -73 (-89, -34) | 0.0061 | 0.0353 | * |
| Granulocyte-macrophage colony-stimulating factor | P04141 | -29 (-45, -9) | 0.008 | 0.0418 | * |
| Growth arrest-specific protein 1 | P54826 | -32 (-42, -20) | <0.0001 | 0.0007 | * |
| Growth factor receptor-bound protein 2 | P62993 | -62 (-85, -6) | 0.0369 | 0.118 | |
| Growth hormone receptor | P10912 | -16 (-26, -4) | 0.0116 | 0.0549 | |
| Growth/differentiation factor 11 | O95390 | -19 (-27, -10) | 0.0003 | 0.004 | * |
| Growth/differentiation factor 15 | Q99988 | -36 (-50, -19) | 0.0007 | 0.0069 | * |
| Haptoglobin | P00738 | -54 (-75, -16) | 0.0134 | 0.0609 | |
| HCE000342 | HCE000342 | -1 (-2, 0) | 0.0179 | 0.0734 | |
| HCE000414 | HCE000414 | -1 (-1, 0) | 0.0079 | 0.0411 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Heat shock 70 kDa protein 1A | P0DMV8 | -33 (-46, -16) | 0.0009 | 0.0081 | * |
| Heat shock cognate 71 kDa protein | P11142 | -32 (-44, -18) | 0.0003 | 0.0039 | * |
| Heat shock protein beta-1 | P04792 | -36 (-59, -2) | 0.0406 | 0.1262 | |
| Hemojuvelin | Q6ZVN8 | -20 (-30, -8) | 0.0028 | 0.0194 | * |
| Hemopexin | P02790 | -15 (-27, -1) | 0.0432 | 0.1313 | |
| Heparin cofactor 2 | P05546 | -28 (-34, -22) | <0.0001 | <0.0001 | * |
| Hepatocyte growth factor activator | Q04756 | -15 (-22, -9) | 0.0001 | 0.0017 | * |
| High affinity cGMP-specific 3',5'-cyclic phosphodiesterase 9A | O76083 | -14 (-21, -7) | 0.001 | 0.0087 | * |
| Histidine-rich glycoprotein | P04196 | -20 (-35, -3) | 0.0269 | 0.0953 | |
| Histone H2A type 3 | Q7L7L0 | -50 (-71, -12) | 0.0179 | 0.0734 | |
| Histone H3.1 | P68431 | -27 (-43, -7) | 0.0127 | 0.0587 | |
| Human Chorionic Gonadotropin | P01215.P01233 | -96 (-97, -92) | <0.0001 | <0.0001 | * |
| Immunoglobulin E | P01854 | -19 (-34, -2) | 0.0328 | 0.1087 | |
| Inorganic pyrophosphatase | Q15181 | -62 (-84, -12) | 0.0251 | 0.0902 | |
| Inosine-5'-monophosphate dehydrogenase 1 | P20839 | -61 (-72, -47) | <0.0001 | 0.0001 | * |
| Inosine-5'-monophosphate dehydrogenase 2 | P12268 | -32 (-48, -11) | 0.0064 | 0.0362 | * |
| Insulin-like growth factor-binding protein 1 | P08833 | -55 (-72, -25) | 0.0031 | 0.0207 | * |
| Insulin-like growth factor-binding protein 3 | P17936 | -41 (-53, -25) | 0.0001 | 0.0018 | * |
| Insulin-like growth factor-binding protein 5 | P24593 | -12 (-22, -1) | 0.0318 | 0.1074 | |
| Integrin alpha-I: beta-1 complex | P56199.P05556 | -25 (-35, -12) | 0.0008 | 0.0072 | * |
| Intercellular adhesion molecule 3 | P32942 | -15 (-28, 0) | 0.0491 | 0.1431 | |
| Interferon beta | P01574 | -30 (-38, -19) | <0.0001 | 0.0003 | * |
| Interleukin-1 alpha | P01583 | -12 (-22, -1) | 0.0319 | 0.1076 | |
| Interleukin-10 receptor subunit alpha | Q13651 | -13 (-22, -3) | 0.0176 | 0.0729 | |
| Interleukin-15 receptor subunit alpha | Q13261 | -16 (-28, -2) | 0.029 | 0.1009 | |
| Interleukin-23 | P29460.Q9NPF7 | -50 (-69, -19) | 0.0069 | 0.038 | * |
| Interleukin-27 | Q8NEV9.Q14213 | -40 (-53, -25) | 0.0001 | 0.0017 | * |
| Interleukin-27 receptor subunit alpha | Q6UWB1 | -9 (-16, -1) | 0.0291 | 0.101 | |
| Interleukin-34 | Q6ZMJ4 | -11 (-18, -4) | 0.0033 | 0.0217 | * |
| Interleukin-6 | P05231 | -56 (-78, -14) | 0.019 | 0.0758 | |
| Junctional adhesion molecule B | P57087 | -21 (-33, -7) | 0.0074 | 0.0398 | * |
| Kallikrein-14 | Q9P0G3 | -16 (-27, -3) | 0.0232 | 0.0863 | |
| Kallikrein-6 | Q92876 | -20 (-30, -7) | 0.0035 | 0.0223 | * |
| Kallistatin | P29622 | -14 (-24, -3) | 0.0118 | 0.0555 | |
| Kelch-like ECH-associated protein 1 | Q14145 | -16 (-29, -3) | 0.0246 | 0.0892 | |
| Kunitz-type protease inhibitor 2 | O43291 | -22 (-38, -1) | 0.0452 | 0.1354 | |
| Layilin | Q6UX15 | -26 (-43, -5) | 0.022 | 0.0837 | |
| Leptin | P41159 | -42 (-54, -26) | 0.0001 | 0.0017 | * |
| Leucine-rich repeat serine/threonine-protein kinase 2 | Q5S007 | -27 (-38, -14) | 0.0007 | 0.0071 | * |
| Low affinity immunoglobulin gamma Fc region receptor II-b | P31994 | -45 (-57, -28) | 0.0001 | 0.0015 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Lumican | P51884 | -12 (-20, -3) | 0.0132 | 0.0604 | |
| Ly6/PLAUR domain-containing protein 3 | O95274 | -18 (-30, -4) | 0.0156 | 0.0666 | |
| Lymphocyte antigen 86 | O95711 | -21 (-32, -8) | 0.0043 | 0.0269 | * |
| Lymphotoxin alpha2:beta1 | P01374.Q06643 | -18 (-31, -2) | 0.0285 | 0.1 | |
| Mammaglobin-B | O75556 | -23 (-34, -10) | 0.0017 | 0.0136 | * |
| Matrix metalloproteinase-16 | P51512 | -27 (-41, -10) | 0.0045 | 0.0274 | * |
| Metalloproteinase inhibitor 2 | P16035 | -12 (-22, -3) | 0.0166 | 0.0694 | |
| MHC class I polypeptide-related sequence B | Q29980 | -37 (-59, -2) | 0.0409 | 0.1263 | |
| Mitogen-activated protein kinase 11 | Q15759 | -21 (-37, -2) | 0.0336 | 0.1105 | |
| Mitogen-activated protein kinase 12 | P53778 | -16 (-24, -8) | 0.0006 | 0.0065 | * |
| Mitogen-activated protein kinase 13 | O15264 | -44 (-57, -27) | 0.0001 | 0.0018 | * |
| Mitogen-activated protein kinase 3 | P27361 | -49 (-58, -37) | <0.0001 | <0.0001 | * |
| Mitogen-activated protein kinase 8 | P45983 | -63 (-72, -51) | <0.0001 | <0.0001 | * |
| Mucin-1 | P15941 | -12 (-19, -5) | 0.0017 | 0.0132 | * |
| N-acetylglucosamine-6-sulfatase | P15586 | -35 (-49, -18) | 0.0011 | 0.0089 | * |
| Natural cytotoxicity triggering receptor 1 | O76036 | -19 (-29, -8) | 0.0027 | 0.0191 | * |
| Natural cytotoxicity triggering receptor 3 | O14931 | -8 (-15, -1) | 0.0326 | 0.1087 | |
| Netrin receptor UNC5D | Q6UXZ4 | -80 (-94, -32) | 0.0121 | 0.0561 | |
| Neuregulin-1 | Q02297 | -18 (-28, -7) | 0.0025 | 0.0178 | * |
| Neurexin-1-beta | P58400 | -37 (-59, -2) | 0.04 | 0.1254 | |
| Neurogenic locus notch homolog protein 3 | Q9UM47 | -8 (-15, 0) | 0.0457 | 0.1366 | |
| Neuronal growth regulator 1 | Q7Z3B1 | -13 (-23, -3) | 0.0194 | 0.0766 | |
| Neutral ceramidase | Q9NR71 | -9 (-18, 0) | 0.044 | 0.1329 | |
| Neutrophil gelatinase-associated lipocalin | P80188 | -26 (-42, -5) | 0.0191 | 0.0758 | |
| Neutrophil-activating peptide 2 | P02775 | -59 (-80, -14) | 0.0196 | 0.0766 | |
| Noggin | Q13253 | -25 (-41, -4) | 0.0231 | 0.0863 | |
| Non-receptor tyrosine-protein kinase TYK2 | P29597 | -32 (-44, -16) | 0.0007 | 0.0071 | * |
| Nucleoside diphosphate kinase A | P15531 | -24 (-39, -5) | 0.0204 | 0.0786 | |
| Nucleoside diphosphate kinase B | P22392 | -81 (-92, -54) | 0.0007 | 0.0071 | * |
| NudC domain-containing protein 3 | Q8IVD9 | -27 (-44, -3) | 0.0274 | 0.0968 | |
| OCIA domain-containing protein 1 | Q9NX40 | -23 (-31, -13) | 0.0002 | 0.0022 | * |
| Opioid-binding protein/cell adhesion molecule | Q14982 | -25 (-34, -14) | 0.0003 | 0.0034 | * |
| OX-2 membrane glycoprotein | P41217 | -33 (-50, -10) | 0.0083 | 0.0429 | * |
| Phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN | P60484 | -28 (-40, -15) | 0.0004 | 0.0045 | * |
| Phosphoglycerate kinase 1 | P00558 | -51 (-70, -18) | 0.0082 | 0.0425 | * |
| Phosphoglycerate mutase 1 | P18669 | -31 (-45, -14) | 0.0028 | 0.0191 | * |
| Pigment epithelium-derived factor | P36955 | -10 (-17, -3) | 0.0114 | 0.0544 | |
| Placenta growth factor | P49763 | -15 (-27, -3) | 0.0233 | 0.0863 | |
| Plasma protease C1 inhibitor | P05155 | -28 (-43, -8) | 0.0108 | 0.0519 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Plasminogen activator inhibitor 1 | P05121 | -67 (-84, -31) | 0.0046 | 0.0278 | * |
| Platelet factor 4 | P02776 | -70 (-90, -5) | 0.0406 | 0.1262 | |
| Platelet-activating factor acetylhydrolase IB subunit beta | P68402 | -15 (-26, -1) | 0.0326 | 0.1087 | |
| Platelet-derived growth factor subunit A | P04085 | -36 (-58, -4) | 0.0311 | 0.1055 | |
| PolyUbiquitin K63-linked | P0CG48 | -46 (-62, -23) | 0.0014 | 0.0111 | * |
| Prefoldin subunit 5 | Q99471 | -29 (-50, 0) | 0.049 | 0.1431 | |
| Pro-opiomelanocortin | P01189.2 | -34 (-56, -1) | 0.0465 | 0.1385 | |
| Prokineticin-1 | P58294 | -20 (-35, -1) | 0.0447 | 0.1341 | |
| Prolactin | P01236 | -32 (-44, -18) | 0.0004 | 0.004 | * |
| Prostate-specific antigen | P07288 | -24 (-35, -10) | 0.0029 | 0.0198 | * |
| Proteasome subunit alpha type-2 | P25787 | -25 (-39, -9) | 0.0069 | 0.038 | * |
| Protein FAM3B | P58499 | -52 (-61, -41) | <0.0001 | <0.0001 | * |
| Protein jagged-1 | P78504 | -13 (-21, -3) | 0.0096 | 0.0479 | * |
| Protein kinase C alpha type | P17252 | -41 (-62, -9) | 0.0212 | 0.0813 | |
| Protein S100-A7 | P31151 | -41 (-55, -22) | 0.0008 | 0.0075 | * |
| Proto-oncogene tyrosine-protein kinase receptor Ret | P07949 | -19 (-29, -9) | 0.0014 | 0.0116 | * |
| Pyridoxal kinase | O00764 | -44 (-67, -4) | 0.0367 | 0.118 | |
| R-spondin-3 | Q9BXY4 | -54 (-66, -38) | <0.0001 | 0.0004 | * |
| RAC-alpha/beta/gamma serine/threonine-protein kinase | P31749.P31751.Q9Y243 | -36 (-50, -18) | 0.001 | 0.0088 | * |
| Ras GTPase-activating protein 1 | P20936 | -36 (-51, -18) | 0.0015 | 0.0117 | * |
| Repulsive guidance molecule A | Q96B86 | -20 (-27, -12) | <0.0001 | 0.0005 | * |
| Retinol-binding protein 4 | P02753 | -14 (-26, -1) | 0.0446 | 0.134 | |
| RGM domain family member B | Q6NW40 | -28 (-39, -16) | 0.0003 | 0.0033 | * |
| Secretin | P09683 | -17 (-27, -6) | 0.0059 | 0.0343 | * |
| Sex hormone-binding globulin | P04278 | -14 (-25, -1) | 0.0404 | 0.1262 | |
| SHC-transforming protein 1 | P29353 | -18 (-29, -4) | 0.0133 | 0.0607 | |
| Signal transducer and activator of transcription 1-alpha/beta | P42224 | -38 (-58, -10) | 0.0146 | 0.0638 | |
| Signal transducer and activator of transcription 3 | P40763 | -34 (-49, -15) | 0.0026 | 0.0186 | * |
| Signal transducer and activator of transcription 6 | P42226 | -31 (-45, -15) | 0.0012 | 0.0102 | * |
| SLAM family member 6 | Q96DU3 | -10 (-19, -2) | 0.0215 | 0.0823 | |
| SLIT and NTRK-like protein 5 | O94991 | -74 (-92, -18) | 0.0235 | 0.0864 | |
| Small nuclear ribonucleoprotein F | P62306 | -12 (-22, -2) | 0.0196 | 0.0766 | |
| Sorting nexin-4 | O95219 | -35 (-49, -18) | 0.0009 | 0.0081 | * |
| SPARC-related modular calcium-binding protein 1 | Q9H4F8 | -13 (-24, 0) | 0.0497 | 0.1445 | |
| Sphingosine kinase 2 | Q9NRA0 | -15 (-28, -1) | 0.0442 | 0.1333 | |
| Stanniocalcin-1 | P52823 | -28 (-44, -7) | 0.0141 | 0.0623 | |
| Superoxide dismutase [Mn], mitochondrial | P04179 | -11 (-19, -2) | 0.0192 | 0.0758 | |
| Syntaxin-1A | Q16623 | -23 (-36, -7) | 0.0074 | 0.0398 | * |
| Thioredoxin domain-containing protein 12 | O95881 | -22 (-26, -18) | <0.0001 | <0.0001 | * |
| Thrombin | P00734 | -54 (-71, -27) | 0.002 | 0.0148 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Thrombospondin-4 | P35443 | -17 (-28, -5) | 0.0092 | 0.0462 | * |
| Thymidine kinase, cytosolic | P04183 | -41 (-54, -25) | 0.0001 | 0.002 | * |
| Thyroid Stimulating Hormone | P01215.P01222 | -78 (-90, -53) | 0.0004 | 0.0044 | * |
| Thyroxine-binding globulin | P05543 | -10 (-15, -5) | 0.0008 | 0.0074 | * |
| Toll-like receptor 4 | O00206 | -14 (-24, -2) | 0.0247 | 0.0892 | |
| Transmembrane glycoprotein NMB | Q14956 | -19 (-33, -1) | 0.0369 | 0.118 | |
| Trefoil factor 3 | Q07654 | -49 (-59, -37) | <0.0001 | <0.0001 | * |
| Tropomyosin alpha-4 chain | P67936 | -39 (-59, -9) | 0.016 | 0.0677 | |
| Trypsin-3 | P35030 | -7 (-13, -2) | 0.0135 | 0.0609 | |
| Tumor necrosis factor ligand superfamily member 14 | O43557 | -18 (-30, -4) | 0.0142 | 0.0623 | |
| Tumor necrosis factor ligand superfamily member 18 | Q9UNG2 | -9 (-16, -1) | 0.0388 | 0.1233 | |
| Tumor necrosis factor receptor superfamily member 10D | Q9UBN6 | -11 (-20, -1) | 0.0343 | 0.1125 | |
| Tumor necrosis factor receptor superfamily member 14 | Q92956 | -9 (-16, -1) | 0.0349 | 0.1142 | |
| Tumor necrosis factor receptor superfamily member 17 | Q02223 | -19 (-26, -11) | 0.0001 | 0.0017 | * |
| Tyrosine-protein kinase Fer | P16591 | -52 (-72, -18) | 0.0099 | 0.0489 | * |
| Tyrosine-protein kinase Fyn | P06241 | -19 (-30, -7) | 0.0057 | 0.0332 | * |
| Tyrosine-protein kinase Lyn, isoform B | P07948 | -55 (-73, -26) | 0.0029 | 0.0197 | * |
| Tyrosine-protein phosphatase non-receptor type 11 | Q06124 | -48 (-67, -18) | 0.0074 | 0.0397 | * |
| Ubiquitin carboxyl-terminal hydrolase isozyme L1 | P09936 | -31 (-42, -17) | 0.0002 | 0.0032 | * |
| Ubiquitin-conjugating enzyme E2 G2 | P60604 | -35 (-41, -28) | <0.0001 | <0.0001 | * |
| Ubiquitin-fold modifier-conjugating enzyme 1 | Q9Y3C8 | -40 (-61, -9) | 0.0196 | 0.0766 | |
| Ubiquitin-like protein ISG15 | P05161 | -47 (-63, -24) | 0.0015 | 0.012 | * |
| Vesicular integral-membrane protein VIP36 | Q12907 | -55 (-62, -46) | <0.0001 | <0.0001 | * |
| VPS10 domain-containing receptor SorCS2 | Q96PQ0 | -15 (-25, -3) | 0.014 | 0.0623 | |
| WAP, kazal, immunoglobulin, kunitz and NTR domain-containing protein 1 | Q96NZ8 | -22 (-38, -1) | 0.0367 | 0.118 | |
| X-ray repair cross-complementing protein 6 | P12956 | -36 (-56, -7) | 0.0232 | 0.0863 | |
| Xaa-Pro aminopeptidase 1 | Q9NQW7 | -56 (-80, -1) | 0.0489 | 0.1431 | |

**Supplemental Table 4.** Proteins significantly increased in relative abundance in neonatal blood collected at 48-72 hours of life when compared to venous cord blood in neonates ≤32 weeks of gestation (N=25) using the SomaLogic platform (p value ≤0.05). *significant following multiple comparisons with adjusted p-value ≤ 0.05. CI, Confidence Interval

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| 3-hydroxyacyl-CoA dehydrogenase type-2 | Q99714 | 21 (6, 40) | 0.0087 | 0.0443 | * |
| 3-hydroxyisobutyrate dehydrogenase, mitochondrial | P31937 | 16 (2, 32) | 0.0237 | 0.0866 | |
| 6-phosphogluconate dehydrogenase, decarboxylating | P52209 | 91 (21, 199) | 0.0078 | 0.0409 | * |
| A disintegrin and metalloproteinase with thrombospondin motifs 1 | Q9UHI8 | 21 (1, 43) | 0.0412 | 0.127 | |
| A disintegrin and metalloproteinase with thrombospondin motifs 15 | Q8TE58 | 11 (1, 22) | 0.033 | 0.1092 | |
| Adiponectin | Q15848 | 22 (8, 39) | 0.0028 | 0.0194 | * |
| Alpha-(1,3)-fucosyltransferase 5 | Q11128 | 72 (21, 145) | 0.0044 | 0.0269 | * |
| Alpha-1-antichymotrypsin | P01011 | 108 (65, 166) | <0.0001 | 0.0001 | * |
| Alpha-1-antichymotrypsin complex | P01011 | 131 (74, 210) | <0.0001 | 0.0001 | * |
| Alpha-enolase | P06733 | 36 (8, 72) | 0.0117 | 0.0554 | |
| Alpha-L-iduronidase | P35475 | 34 (17, 52) | 0.0001 | 0.0017 | * |
| Aminoacylase-1 | Q03154 | 58 (16, 116) | 0.0062 | 0.0354 | * |
| Angiogenin | P03950 | 85 (66, 107) | <0.0001 | <0.0001 | * |
| Angiopoietin-4 | Q9Y264 | 11 (1, 22) | 0.0397 | 0.1252 | |
| Angiotensinogen | P01019 | 25 (7, 45) | 0.0065 | 0.0365 | * |
| Antileukoproteinase | P03973 | 47 (23, 77) | 0.0002 | 0.0024 | * |
| Bcl-2-like protein 2 | Q92843 | 13 (3, 25) | 0.0162 | 0.0681 | |
| Bone morphogenetic protein 1 | P13497 | 75 (49, 104) | <0.0001 | <0.0001 | * |
| Bone morphogenetic protein 6 | P22004 | 44 (0, 107) | 0.05 | 0.1446 | |
| Bone sialoprotein 2 | P21815 | 130 (48, 256) | 0.0007 | 0.0065 | * |
| C-C motif chemokine 16 | O15467 | 91 (53, 139) | <0.0001 | 0.0001 | * |
| C-C motif chemokine 17 | Q92583 | 39 (2, 92) | 0.0395 | 0.1248 | |
| C-C motif chemokine 18 | P55774 | 30 (19, 43) | <0.0001 | 0.0001 | * |
| C-C motif chemokine 2 | P13500 | 71 (12, 160) | 0.0153 | 0.0658 | |
| C-C motif chemokine 21 | O00585 | 92 (47, 148) | <0.0001 | 0.0005 | * |
| C-C motif chemokine 22 | O00626 | 60 (33, 93) | <0.0001 | 0.0006 | * |
| C-C motif chemokine 23 | P55773 | 39 (6, 82) | 0.0201 | 0.078 | |
| C-C motif chemokine 25 | O15444 | 59 (7, 138) | 0.0233 | 0.0863 | |
| C-C motif chemokine 28 | Q9NRJ3 | 123 (79, 179) | <0.0001 | <0.0001 | * |
| C-reactive protein | P02741 | 363 (143, 782) | 0.0001 | 0.001 | * |
| C-X-C motif chemokine 13 | O43927 | 153 (91, 236) | <0.0001 | <0.0001 | * |
| C-X-C motif chemokine 16 | Q9H2A7 | 45 (15, 83) | 0.0028 | 0.0191 | * |
| C-X-C motif chemokine 6 | P80162 | 52 (4, 123) | 0.0353 | 0.1149 | |
| C5a anaphylatoxin | P01031 | 62 (31, 101) | 0.0001 | 0.0017 | * |
| Cadherin-1 | P12830 | 32 (12, 56) | 0.0025 | 0.0178 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Cadherin-3 | P22223 | 14 (2, 28) | 0.0255 | 0.0909 | |
| Calpain I | P07384.P04632 | 56 (30, 87) | <0.0001 | 0.0007 | * |
| Carbonic anhydrase 7 | P43166 | 18 (7, 29) | 0.0018 | 0.0139 | * |
| Carboxypeptidase B2 | Q96IY4 | 23 (11, 38) | 0.0006 | 0.0059 | * |
| Casein kinase II 2-alpha':2-beta heterotetramer | P19784.P67870 | 68 (27, 125) | 0.0009 | 0.0079 | * |
| Catalase | P04040 | 64 (25, 114) | 0.0009 | 0.008 | * |
| Ciliary neurotrophic factor receptor subunit alpha | P26992 | 48 (15, 92) | 0.0042 | 0.0265 | * |
| Ck-beta-8-1 | P55773 | 60 (12, 128) | 0.012 | 0.0558 | |
| Coagulation factor IX | P00740 | 37 (11, 68) | 0.0052 | 0.0313 | * |
| Coagulation factor IXab | P00740 | 31 (7, 60) | 0.0107 | 0.0518 | |
| Coagulation Factor XI | P03951 | 12 (2, 22) | 0.0152 | 0.0656 | |
| Coiled-coil domain-containing protein 80 | Q76M96 | 30 (17, 44) | <0.0001 | 0.0004 | * |
| Collagenase 3 | P45452 | 122 (44, 239) | 0.0008 | 0.0074 | * |
| Collectin-11 | Q9BWP8 | 59 (37, 85) | <0.0001 | 0.0001 | * |
| Complement C1q subcomponent | P02745..P02746..P02747 | 31 (6, 62) | 0.0147 | 0.0641 | |
| Complement C4 | P0C0L4..P0C0L5 | 23 (13, 35) | 0.0001 | 0.0011 | * |
| Complement C5 | P01031 | 27 (13, 41) | 0.0001 | 0.002 | * |
| Complement C5b-C6 complex | P01031.P13671 | 19 (6, 33) | 0.0036 | 0.0232 | * |
| Complement component C7 | P10643 | 30 (19, 43) | <0.0001 | 0.0002 | * |
| Complement component C9 | P02748 | 281 (128, 536) | <0.0001 | 0.0004 | * |
| Complement factor B | P00751 | 40 (21, 64) | 0.0001 | 0.0018 | * |
| Complement factor I | P05156 | 19 (8, 30) | 0.0008 | 0.0074 | * |
| Contactin-2 | Q02246 | 46 (20, 80) | 0.0007 | 0.0071 | * |
| D-dimer | P02671.P02675.P02679 | 71 (9, 168) | 0.0228 | 0.0859 | |
| DnaJ homolog subfamily B member 1 | P25685 | 31 (2, 69) | 0.0367 | 0.118 | |
| Dual 3',5'-cyclic-AMP and -GMP phosphodiesterase 11A | Q9HCR9 | 28 (9, 49) | 0.0033 | 0.0215 | * |
| E-selectin | P16581 | 52 (21, 89) | 0.0008 | 0.0074 | * |
| Ectonucleoside triphosphate diphosphohydrolase 5 | O75356 | 203 (151, 263) | <0.0001 | <0.0001 | * |
| Ectonucleotide pyrophosphatase/phosphodiesterase family member 7 | Q6UWV6 | 42 (5, 93) | 0.0246 | 0.0892 | |
| Elafin | P19957 | 97 (51, 158) | <0.0001 | 0.0005 | * |
| Endothelial cell-specific molecule 1 | Q9NQ30 | 30 (16, 47) | 0.0001 | 0.002 | * |
| Eotaxin | P51671 | 160 (92, 253) | <0.0001 | <0.0001 | * |
| Epidermal growth factor receptor substrate 15-like 1 | Q9UBC2 | 21 (9, 33) | 0.0008 | 0.0074 | * |
| Eukaryotic translation initiation factor 5A-1 | P63241 | 42 (9, 84) | 0.0102 | 0.0502 | |
| Ferritin | P02794.P02792 | 30 (8, 58) | 0.0078 | 0.0409 | * |
| Fibrinogen | P02671.P02675.P02679 | 65 (8, 150) | 0.0217 | 0.0828 | |
| Fibrinogen gamma chain | P02679 | 95 (21, 216) | 0.0084 | 0.0431 | * |
| Fibroblast growth factor 10 | O15520 | 34 (6, 68) | 0.0151 | 0.0653 | |
| Fibroblast growth factor receptor 4 | P22455 | 29 (6, 58) | 0.0151 | 0.0653 | |
| Follistatin-related protein 3 | O95633 | 24 (4, 47) | 0.0156 | 0.0666 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Fructose-bisphosphate aldolase A | P04075 | 39 (25, 55) | <0.0001 | 0.0001 | * |
| Galectin-3 | P17931 | 25 (11, 39) | 0.0005 | 0.0054 | * |
| GDNF family receptor alpha-1 | P56159 | 29 (2, 62) | 0.0327 | 0.1087 | |
| Glucagon | P01275 | 57 (11, 122) | 0.0136 | 0.061 | |
| gp41 C34 peptide, HIV | Q70626 | 27 (6, 52) | 0.0124 | 0.0574 | |
| Gremlin-1 | O60565 | 25 (9, 43) | 0.003 | 0.0204 | * |
| GTP-binding nuclear protein Ran | P62826 | 216 (6, 838) | 0.0389 | 0.1233 | |
| HCE000483 | HCE000483 | 1 (0, 2) | 0.0324 | 0.1087 | * |
| Hepatocyte growth factor | P14210 | 29 (1, 64) | 0.0392 | 0.1242 | |
| Hepatocyte growth factor receptor | P08581 | 27 (9, 49) | 0.0049 | 0.0296 | * |
| Hepatocyte growth factor-like protein | P26927 | 15 (1, 29) | 0.0322 | 0.1083 | |
| High affinity immunoglobulin gamma Fc receptor I | P12314 | 27 (13, 42) | 0.0004 | 0.0044 | * |
| Histone acetyltransferase type B catalytic subunit | O14929 | 79 (27, 151) | 0.0018 | 0.014 | * |
| Insulin-like growth factor 1 receptor | P08069 | 29 (1, 66) | 0.0433 | 0.1313 | |
| Insulin-like growth factor-binding protein 6 | P24592 | 21 (6, 39) | 0.0076 | 0.0406 | * |
| Integrin alpha-IIb: beta-3 complex | P08514.P05106 | 168 (99, 258) | <0.0001 | <0.0001 | * |
| Inter-alpha-trypsin inhibitor heavy chain H4 | Q14624 | 46 (26, 69) | <0.0001 | 0.0004 | * |
| Intercellular adhesion molecule 1 | P05362 | 27 (9, 47) | 0.0044 | 0.0269 | * |
| Interferon alpha-7 | P01567 | 20 (9, 30) | 0.0003 | 0.0036 | * |
| Interferon regulatory factor 1 | P10914 | 44 (7, 95) | 0.0184 | 0.0747 | |
| Interleukin-1 receptor type 2 | P27930 | 42 (20, 71) | 0.0003 | 0.0036 | * |
| Interleukin-1 receptor-like 1 | Q01638 | 148 (60, 281) | 0.0002 | 0.0031 | * |
| Interleukin-16 | Q14005 | 26 (3, 53) | 0.0266 | 0.0943 | |
| Interleukin-17 receptor B | Q9NRM6 | 166 (114, 227) | <0.0001 | <0.0001 | * |
| Interleukin-17 receptor D | Q8NFM7 | 9 (1, 19) | 0.04 | 0.1254 | |
| Interleukin-17B | Q9UHF5 | 58 (21, 106) | 0.0015 | 0.012 | * |
| Interleukin-17D | Q8TAD2 | 25 (9, 42) | 0.0019 | 0.0142 | * |
| Interleukin-18 receptor 1 | Q13478 | 36 (10, 67) | 0.0062 | 0.0356 | * |
| Interleukin-18-binding protein | O95998 | 53 (12, 110) | 0.0105 | 0.0509 | |
| Interleukin-19 | Q9UHD0 | 21 (4, 42) | 0.0172 | 0.0714 | |
| Interleukin-2 receptor subunit alpha | P01589 | 19 (7, 32) | 0.0027 | 0.0188 | * |
| Interleukin-20 | Q9NYY1 | 10 (3, 19) | 0.0103 | 0.0503 | |
| Interleukin-24 | Q13007 | 13 (2, 25) | 0.0171 | 0.0714 | |
| Interleukin-36 beta | Q9NZH7 | 54 (6, 122) | 0.0229 | 0.0859 | |
| Interleukin-6 receptor subunit alpha | P08887 | 45 (24, 71) | 0.0001 | 0.001 | * |
| Kallikrein-7 | P49862 | 119 (73, 177) | <0.0001 | <0.0001 | * |
| Kininogen-1 | P01042 | 28 (11, 47) | 0.0018 | 0.0137 | * |
| L-lactate dehydrogenase B chain | P07195 | 48 (15, 91) | 0.0036 | 0.0232 | * |
| Lactadherin | Q08431 | 60 (4, 146) | 0.0359 | 0.1165 | |
| Leptin receptor | P48357 | 48 (26, 74) | <0.0001 | 0.0009 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Leukemia inhibitory factor receptor | P42702 | 32 (8, 60) | 0.0077 | 0.0407 | * |
| Lipopolysaccharide-binding protein | P18428 | 41 (13, 75) | 0.0036 | 0.0232 | * |
| Low affinity immunoglobulin gamma Fc region receptor II-a | P12318 | 55 (4, 131) | 0.0315 | 0.1066 | |
| Low-density lipoprotein receptor-related protein 1B | Q9NZR2 | 17 (1, 38) | 0.0409 | 0.1263 | |
| Lymphocyte activation gene 3 protein | P18627 | 120 (65, 197) | <0.0001 | 0.0002 | * |
| Macrophage mannose receptor 1 | P22897 | 54 (22, 95) | 0.0008 | 0.0074 | * |
| Malate dehydrogenase, cytoplasmic | P40925 | 39 (9, 79) | 0.0119 | 0.0557 | |
| Mannose-binding protein C | P11226 | 61 (39, 87) | <0.0001 | <0.0001 | * |
| Matrix extracellular phosphoglycoprotein | Q9NQ76 | 54 (30, 82) | <0.0001 | 0.0004 | * |
| Methionine aminopeptidase 1 | P53582 | 30 (3, 64) | 0.0286 | 0.1 | |
| Methionine aminopeptidase 2 | P50579 | 68 (35, 111) | 0.0001 | 0.001 | * |
| Midkine | P21741 | 203 (77, 421) | 0.0003 | 0.0036 | * |
| Mitochondrial import inner membrane translocase subunit TIM14 | Q96DA6 | 33 (18, 48) | <0.0001 | 0.0008 | * |
| Myeloblastin | P24158 | 64 (19, 123) | 0.0038 | 0.0242 | * |
| Myeloperoxidase | P05164 | 82 (32, 151) | 0.0008 | 0.0074 | * |
| Myosin-binding protein C, slow-type | Q00872 | 27 (1, 61) | 0.0429 | 0.1307 | |
| Natural cytotoxicity triggering receptor 2 | O95944 | 9 (2, 16) | 0.0123 | 0.0572 | |
| Netrin-1 | O95631 | 31 (1, 71) | 0.0429 | 0.1307 | |
| Netrin-4 | Q9HB63 | 73 (51, 100) | <0.0001 | <0.0001 | * |
| Neutrophil elastase | P08246 | 20 (5, 37) | 0.0101 | 0.05 | * |
| Nidogen-2 | Q14112 | 30 (12, 52) | 0.0019 | 0.014 | * |
| P-selectin | P16109 | 31 (11, 55) | 0.0027 | 0.0191 | * |
| Parathyroid hormone | P01270 | 116 (61, 189) | <0.0001 | 0.0003 | * |
| Peptide YY | P10082 | 123 (72, 189) | <0.0001 | 0.0001 | * |
| Phospholipase A2, membrane associated | P14555 | 128 (53, 243) | 0.0003 | 0.0039 | * |
| Plasma serine protease inhibitor | P05154 | 25 (7, 44) | 0.0057 | 0.0332 | * |
| Pleiotrophin | P21246 | 88 (55, 127) | <0.0001 | <0.0001 | * |
| Polymeric immunoglobulin receptor | P01833 | 79 (39, 128) | 0.0001 | 0.001 | * |
| PolyUbiquitin K48-linked | P0CG47 | 75 (25, 146) | 0.0024 | 0.0173 | * |
| Protein 4.1 | P11171 | 64 (11, 143) | 0.0158 | 0.0669 | |
| Protein disulfide-isomerase | P07237 | 20 (11, 29) | <0.0001 | 0.0007 | * |
| Protein E7_HPV16 | P03129 | 9 (0, 20) | 0.0474 | 0.1403 | |
| Protein S100-A4 | P26447 | 47 (6, 106) | 0.0235 | 0.0864 | |
| Protein S100-A6 | P06703 | 58 (9, 128) | 0.0182 | 0.0742 | |
| Protein S100-A9 | P06702 | 84 (48, 130) | <0.0001 | 0.0001 | * |
| Protein-glutamine gamma-glutamyltransferase E | Q08188 | 338 (123, 751) | 0.0001 | 0.0018 | * |
| Quinone oxidoreductase-like protein 1 | O95825 | 42 (7, 89) | 0.0166 | 0.0694 | |
| R-spondin-2 | Q6UXX9 | 38 (4, 80) | 0.0247 | 0.0892 | |
| Receptor-type tyrosine-protein kinase FLT3 | P36888 | 17 (2, 36) | 0.0294 | 0.1017 | |
| Renin | P00797 | 41 (9, 83) | 0.0097 | 0.0485 | * |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | |
|---|---|---|---|---|---|
| Scavenger receptor cysteine-rich type 1 protein M130 | Q86VB7 | 68 (33, 113) | 0.0001 | 0.0017 | * |
| Sclerostin | Q9BQB4 | 77 (42, 119) | <0.0001 | 0.0003 | * |
| Secreted frizzled-related protein 3 | Q92765 | 27 (3, 57) | 0.0298 | 0.1026 | |
| Semaphorin-3E | O15041 | 18 (4, 35) | 0.0141 | 0.0623 | |
| Serotransferrin | P02787 | 9 (1, 19) | 0.029 | 0.1009 | |
| Serum albumin | P02768 | 83 (58, 110) | <0.0001 | <0.0001 | * |
| Serum amyloid A-1 protein | P0DJI8 | 155 (18, 446) | 0.0192 | 0.0758 | |
| Serum amyloid P-component | P02743 | 403 (261, 596) | <0.0001 | <0.0001 | * |
| SH2 domain-containing protein 1A | O60880 | 35 (12, 62) | 0.0031 | 0.0207 | * |
| Sialic acid-binding Ig-like lectin 7 | Q9Y286 | 16 (2, 32) | 0.0249 | 0.0898 | |
| SLAM family member 7 | Q9NQ25 | 21 (2, 44) | 0.0302 | 0.1033 | |
| Stromal cell-derived factor 1 | P48061 | 39 (24, 58) | <0.0001 | 0.0003 | * |
| Synaptosomal-associated protein 25 | P60880 | 27 (6, 49) | 0.0087 | 0.0443 | * |
| Tartrate-resistant acid phosphatase type 5 | P13686 | 32 (21, 44) | <0.0001 | <0.0001 | * |
| Tenascin | P24821 | 33 (9, 61) | 0.0057 | 0.0332 | * |
| Thymidylate synthase | P04818 | 48 (22, 79) | 0.0003 | 0.0033 | * |
| Tissue factor pathway inhibitor | P10646 | 32 (15, 53) | 0.0005 | 0.005 | * |
| Transforming growth factor beta-1 | P01137 | 14 (0, 29) | 0.0474 | 0.1403 | |
| Transforming growth factor beta-2 | P61812 | 19 (6, 33) | 0.0033 | 0.0215 | * |
| Trefoil factor 1 | P04155 | 482 (286, 782) | <0.0001 | <0.0001 | * |
| Troponin I, cardiac muscle | P19429 | 23 (7, 41) | 0.0055 | 0.0328 | * |
| Troponin I, fast skeletal muscle | P48788 | 218 (88, 439) | 0.0001 | 0.0018 | * |
| Troponin T, cardiac muscle | P45379 | 131 (80, 199) | <0.0001 | <0.0001 | * |
| Trypsin-1 | P07477 | 44 (20, 74) | 0.0004 | 0.0046 | * |
| Trypsin-2 | P07478 | 31 (11, 56) | 0.0026 | 0.0184 | * |
| Tryptase beta-2 | P20231 | 21 (6, 37) | 0.0063 | 0.0357 | * |
| Tumor necrosis factor receptor superfamily member 10B | O14763 | 17 (1, 36) | 0.0428 | 0.1307 | |
| Tumor necrosis factor receptor superfamily member 6B | O95407 | 13 (5, 21) | 0.0013 | 0.0109 | * |
| Tumor necrosis factor-inducible gene 6 protein | P98066 | 65 (37, 99) | <0.0001 | 0.0003 | * |
| Tyrosine-protein kinase ABL1 | P00519 | 10 (1, 21) | 0.036 | 0.1165 | |
| Tyrosine-protein kinase JAK2 | O60674 | 22 (4, 45) | 0.0222 | 0.0842 | |
| Ubiquitin+1, truncated mutation for UbB | P62979 | 65 (21, 127) | 0.0031 | 0.0207 | * |
| Urokinase-type plasminogen activator | P00749 | 61 (36, 91) | <0.0001 | 0.0002 | * |
| Vacuolar protein sorting-associated protein VTA1 homolog | Q9NP79 | 83 (31, 157) | 0.0011 | 0.009 | * |
| Vascular cell adhesion protein 1 | P19320 | 19 (1, 41) | 0.0414 | 0.1271 | |
| Vascular endothelial growth factor A | P15692 | 17 (2, 35) | 0.0253 | 0.0907 | |
| Vascular endothelial growth factor D | O43915 | 80 (24, 162) | 0.0033 | 0.0217 | * |
| Vascular endothelial growth factor receptor 3 | P35916 | 19 (1, 40) | 0.0357 | 0.116 | |
| Vitamin K-dependent protein S | P07225 | 27 (16, 37) | <0.0001 | 0.0001 | * |

**Supplemental Table 5.** Proteins that are both significantly increased in relative abundance following multiple comparisons in the umbilical vein as compared to the umbilical artery and significantly decreased in relative abundance in neonatal blood collected at 48-72 hours of life when compared to venous cord blood in neonates ≤ 32 weeks of gestation using the SomaLogic platform (p-value ≤0.05). **[A]** Significantly increased in umbilical vein vs umbilical artery. **[B]** Significantly decreased in neonatal blood vs umbilical vein blood. CI; Confidence Intervals

| Target Full Name | UniProt | [A] % Difference (CI) | [B] % Difference (CI) |
|---|---|---|---|
| 3-phosphoinositide-dependent protein kinase 1 | O15530 | 107 (39, 208) | -47 (-62, -25) |
| Adenylosuccinate lyase | P30566 | 175 (49, 407) | -53 (-72, -23) |
| Annexin A1 | P04083 | 150 (22, 411) | -82 (-90, -66) |
| Annexin A2 | P07355 | 246 (65, 626) | -71 (-83, -49) |
| Beta-2-microglobulin | P61769 | 11 (1, 22) | -20 (-27, -12) |
| Calreticulin | P27797 | 22 (6, 41) | -18 (-22, -13) |
| CD59 glycoprotein | P13987 | 35 (18, 55) | -38 (-44, -30) |
| Chromogranin-A | P10645 | 43 (18, 74) | -41 (-53, -25) |
| Coagulation Factor X | P00742 | 14 (3, 25) | -11 (-18, -3) |
| COMM domain-containing protein 7 | Q86VX2 | 48 (23, 78) | -23 (-32, -12) |
| Cystatin-C | P01034 | 12 (2, 24) | -20 (-26, -14) |
| Dual specificity protein phosphatase 3 | P51452 | 59 (18, 115) | -40 (-53, -23) |
| Dynein light chain roadblock-type 1 | Q9NP97 | 137 (44, 288) | -55 (-70, -33) |
| Ephrin type-B receptor 6 | O15197 | 25 (8, 45) | -21 (-31, -10) |
| Ephrin-A2 | O43921 | 33 (13, 56) | -16 (-26, -5) |
| Ephrin-B1 | P98172 | 29 (15, 44) | -25 (-32, -17) |
| Fatty acid-binding protein, heart | P05413 | 31 (13, 53) | -27 (-42, -10) |
| Fibroblast growth factor 23 | Q9GZV9 | 254 (96, 537) | -55 (-73, -24) |
| Fibroblast growth factor receptor 1 | P11362 | 10 (2, 19) | -18 (-26, -9) |
| Galectin-3-binding protein | Q08380 | 39 (16, 67) | -36 (-49, -20) |
| Glutathione S-transferase P | P09211 | 207 (76, 433) | -52 (-70, -23) |
| Granulocyte colony-stimulating factor | P09919 | 551 (147, 1616) | -73 (-89, -34) |
| Granulocyte-macrophage colony-stimulating factor | P04141 | 71 (20, 144) | -29 (-45, -9) |
| Growth arrest-specific protein 1 | P54826 | 36 (15, 62) | -32 (-42, -20) |
| Growth/differentiation factor 11 | O95390 | 21 (3, 43) | -19 (-27, -10) |
| Growth/differentiation factor 15 | Q99988 | 23 (3, 46) | -36 (-50, -19) |
| Heat shock 70 kDa protein 1A | P0DMV8 | 69 (21, 136) | -33 (-46, -16) |
| Heparin cofactor 2 | P05546 | 9 (2, 16) | -28 (-34, -22) |
| Hepatocyte growth factor activator | Q04756 | 12 (2, 23) | -15 (-22, -9) |
| High affinity cGMP-specific 3',5'-cyclic phosphodiesterase 9A | O76083 | 26 (4, 53) | -14 (-21, -7) |
| Human Chorionic Gonadotropin | P01215.P01233 | 156 (34, 389) | -96 (-97, -92) |
| Insulin-like growth factor-binding protein 1 | P08833 | 32 (19, 48) | -55 (-72, -25) |
| Interleukin-23 | P29460.Q9NPF7 | 297 (84, 759) | -50 (-69, -19) |

| Target Full Name | UniProt | [A] % Difference (CI) | [B] % Difference (CI) |
|---|---|---|---|
| Interleukin-27 | Q8NEV9.Q14213 | 108 (29, 238) | -40 (-53, -25) |
| Low affinity immunoglobulin gamma Fc region receptor II-b | P31994 | 21 (6, 37) | -45 (-57, -28) |
| Mitogen-activated protein kinase 12 | P53778 | 33 (11, 58) | -16 (-24, -8) |
| Mucin-1 | P15941 | 15 (4, 27) | -12 (-19, -5) |
| Natural cytotoxicity triggering receptor 1 | O76036 | 39 (14, 70) | -19 (-29, -8) |
| Neuregulin-1 | Q02297 | 30 (7, 57) | -18 (-28, -7) |
| Nucleoside diphosphate kinase B | P22392 | 663 (217, 1735) | -81 (-92, -54) |
| OCIA domain-containing protein 1 | Q9NX40 | 22 (4, 43) | -23 (-31, -13) |
| OX-2 membrane glycoprotein | P41217 | 122 (39, 256) | -33 (-50, -10) |
| Phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN | P60484 | 52 (22, 89) | -28 (-40, -15) |
| Phosphoglycerate kinase 1 | P00558 | 178 (63, 373) | -51 (-70, -18) |
| PolyUbiquitin K63-linked | P0CG48 | 147 (63, 273) | -46 (-62, -23) |
| Prolactin | P01236 | 28 (11, 47) | -32 (-44, -18) |
| Protein FAM3B | P58499 | 34 (14, 58) | -52 (-61, -41) |
| Protein jagged-1 | P78504 | 28 (7, 53) | -13 (-21, -3) |
| Protein S100-A7 | P31151 | 197 (71, 417) | -41 (-55, -22) |
| Proto-oncogene tyrosine-protein kinase receptor Ret | P07949 | 31 (11, 55) | -19 (-29, -9) |
| R-spondin-3 | Q9BXY4 | 110 (40, 215) | -54 (-66, -38) |
| Ras GTPase-activating protein 1 | P20936 | 61 (21, 115) | -36 (-51, -18) |
| Repulsive guidance molecule A | Q96B86 | 16 (6, 27) | -20 (-27, -12) |
| RGM domain family member B | Q6NW40 | 36 (9, 68) | -28 (-39, -16) |
| Thioredoxin domain-containing protein 12 | O95881 | 14 (8, 21) | -22 (-26, -18) |
| Thrombin | P00734 | 148 (50, 312) | -54 (-71, -27) |
| Thyroid Stimulating Hormone | P01215.P01222 | 629 (174, 1837) | -78 (-90, -53) |
| Trefoil factor 3 | Q07654 | 34 (15, 55) | -49 (-59, -37) |
| Tumor necrosis factor receptor superfamily member 17 | Q02223 | 16 (3, 31) | -19 (-26, -11) |
| Tyrosine-protein kinase Fer | P16591 | 177 (47, 422) | -52 (-72, -18) |
| Tyrosine-protein kinase Lyn, isoform B | P07948 | 146 (51, 301) | -55 (-73, -26) |
| Tyrosine-protein phosphatase non-receptor type 11 | Q06124 | 171 (68, 335) | -48 (-67, -18) |
| Ubiquitin-like protein ISG15 | P05161 | 94 (36, 176) | -47 (-63, -24) |

**Supplemental Table 6**. Proteins that are significantly increased in relative abundance following multiple comparisons in the umbilical vein as compared to the umbilical artery in **[A]** full term infants performed in a prior study by Michelsen et al [14] and **[B]** preterm infants ≤ 32 weeks of gestation using the SomaLogic platform (p-value ≤0.05).

| Target Full Name | UniProt | [A] Percent higher in umbilical vein in term placenta | [B] Percent higher in umbilical vein in preterm placenta |
|---|---|---|---|
| 72 kDa type IV collagenase | P08253 | 6.25 | 36 |
| A disintegrin and metalloproteinase with thrombospondin motifs 13 | Q76LX8 | 9.2 | 41 |
| ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 2 | Q10588 | 14.54 | 53 |
| Aggrecan core protein | P16112 | 18.27 | 191 |
| Agouti-related protein | O00253 | 39.83 | 339 |
| Alpha-(1,3)-fucosyltransferase 5 | Q11128 | 9.43 | 89 |
| Alpha-2-antiplasmin | P08697 | 9.92 | 14 |
| Alpha-2-macroglobulin | P01023 | 6.61 | 47 |
| alpha-Fetoprotein | P02771 | 15.77 | 65 |
| Alpha-L-iduronidase | P35475 | 7.1 | 13 |
| Amphoterin-induced protein 2 | Q86SJ2 | 27.8 | 303 |
| Angiogenin | P03950 | 8.72 | 11 |
| Angiopoietin-1 receptor, soluble | Q02763 | 7.81 | 110 |
| Angiopoietin-2 | O15123 | 7.22 | 41 |
| Angiostatin | P00747 | 9.45 | 46 |
| Angiotensinogen | P01019 | 8.2 | 12 |
| Antileukoproteinase | P03973 | 5.93 | 21 |
| Apolipoprotein A-I | P02647 | 8.01 | 13 |
| Asialoglycoprotein receptor 1 | P07306 | 19.77 | 188 |
| Basal Cell Adhesion Molecule | P50895 | 13.53 | 124 |
| BDNF/NT-3 growth factors receptor | Q16620 | 7.25 | 42 |
| Beta-2-microglobulin | P61769 | 9.24 | 11 |
| Brain-specific serine protease 4 | Q9GZN4 | 4.77 | 43 |
| Brother of CDO | Q9BWV1 | 33.67 | 560 |
| C-C motif chemokine 15 | Q16663 | 7.21 | 43 |
| C-C motif chemokine 16 | O15467 | 8.86 | 21 |
| C-C motif chemokine 21 | O00585 | 10.17 | 25 |
| C-C motif chemokine 23 | P55773 | 7.26 | 19 |
| C-type mannose receptor 2 | Q9UBG0 | 6.98 | 43 |
| C-X-C motif chemokine 16 | Q9H2A7 | 6.51 | 34 |
| C3a anaphylatoxin des Arginine | P01024 | 27.36 | 102 |
| C5a anaphylatoxin | P01031 | 9.17 | 39 |

| Target Full Name | UniProt | [A] Percent higher in umbilical vein in term placenta | [B] Percent higher in umbilical vein in preterm placenta |
|---|---|---|---|
| Cadherin-1 | P12830 | 9.3 | 22 |
| Cadherin-5 | P33151 | 7.33 | 34 |
| Carbohydrate sulfotransferase 15 | Q7LFX5 | 8.4 | 33 |
| Carbonic anhydrase 6 | P23280 | 7.98 | 17 |
| Cathepsin H | P09668 | 19.81 | 185 |
| Cathepsin L2 | O60911 | 12 | 152 |
| Cathepsin Z | Q9UBR2 | 8.24 | 50 |
| Cation-independent mannose-6-phosphate receptor | P11717 | 6.84 | 33 |
| CD109 antigen | Q6YHK3 | 25.26 | 332 |
| CD166 antigen | Q13740 | 7.48 | 39 |
| CD59 glycoprotein | P13987 | 6.97 | 35 |
| Cell adhesion molecule 1 | Q9BY67 | 19.4 | 206 |
| Cell adhesion molecule-related/down-regulated by oncogenes | Q4KMG0 | 7.62 | 37 |
| Cerebral dopamine neurotrophic factor | Q49AH0 | 4.54 | 38 |
| Chitinase-3-like protein 1 | P36222 | 5.72 | 26 |
| Chromogranin-A | P10645 | 5.41 | 43 |
| Ck-beta-8-1 | P55773 | 9.4 | 69 |
| CMRF35-like molecule 6 | Q08708 | 5.76 | 30 |
| Coagulation factor IX | P00740 | 16.38 | 30 |
| Coagulation factor IXab | P00740 | 16.73 | 29 |
| Coagulation Factor X | P00742 | 9.63 | 14 |
| Coagulation factor Xa | P00742 | 9.26 | 12 |
| Complement C2 | P06681 | 8.08 | 9 |
| Complement C3b, inactivated | P01024 | 23.47 | 268 |
| Complement C3d fragment | P01024 | 29.86 | 234 |
| Complement C5 | P01031 | 9.77 | 13 |
| Complement C5b-C6 complex | P01031,P13671 | 8.5 | 14 |
| Complement component C1q receptor | Q9NPY3 | 8.13 | 34 |
| Complement component C6 | P13671 | 41.31 | 289 |
| Complement decay-accelerating factor | P08174 | 6.34 | 33 |
| Complement factor H | P08603 | 8.61 | 37 |
| Contactin-4 | Q8IWV2 | 7.06 | 30 |
| Contactin-5 | O94779 | 10.53 | 119 |
| Cystatin-C | P01034 | 7.58 | 12 |
| Cystatin-M | Q15828 | 6.15 | 39 |
| Cystatin-SA | P09228 | 20.42 | 114 |
| Cystatin-SN | P01037 | 10.63 | 40 |

| Target Full Name | UniProt | [A] Percent higher in umbilical vein in term placenta | [B] Percent higher in umbilical vein in preterm placenta |
|---|---|---|---|
| Cysteine-rich with EGF-like domain protein 1 | Q96HD1 | 7.21 | 29 |
| dCTP pyrophosphatase 1 | Q9H773 | 44.77 | 286 |
| Delta-like protein 1 | O00548 | 6.68 | 31 |
| Dermatopontin | Q07507 | 8.66 | 68 |
| Desmocollin-2 | Q02487 | 7.34 | 37 |
| Disintegrin and metalloproteinase domain-containing protein 9 | Q13443 | 11.44 | 246 |
| E-selectin | P16581 | 8.32 | 36 |
| Ectodysplasin-A, secreted form | Q92838 | 12.86 | 157 |
| Ectonucleotide pyrophosphatase/phosphodiesterase family member 7 | Q6UWV6 | 6.51 | 76 |
| Elafin | P19957 | 6.64 | 35 |
| Endoglin | P17813 | 31.56 | 334 |
| Endoplasmic reticulum aminopeptidase 1 | Q9NZ08 | 33.93 | 484 |
| Endostatin | P39060 | 7.77 | 37 |
| Ephrin type-A receptor 1 | P21709 | 35.76 | 380 |
| Ephrin type-A receptor 2 | P29317 | 22.77 | 144 |
| Ephrin type-A receptor 5 | P54756 | 19.58 | 294 |
| Ephrin type-B receptor 2 | P29323 | 6.52 | 56 |
| Ephrin type-B receptor 6 | O15197 | 5.75 | 25 |
| Ephrin-A2 | O43921 | 6.66 | 33 |
| Ephrin-A4 | P52798 | 10.11 | 117 |
| Ephrin-A5 | P52803 | 25.9 | 269 |
| Ephrin-B2 | P52799 | 52.85 | 1837 |
| Epidermal growth factor receptor | P00533 | 7.69 | 28 |
| Erythropoietin | P01588 | 19.58 | 208 |
| Fatty acid-binding protein, heart | P05413 | 36.14 | 31 |
| Fibroblast growth factor 19 | O95750 | 9.93 | 122 |
| Fibroblast growth factor 23 | Q9GZV9 | 14.59 | 254 |
| Fibroblast growth factor receptor 1 | P11362 | 8.07 | 10 |
| Fibronectin Fragment 4 | P02751 | 7.98 | 23 |
| Follistatin-related protein 1 | Q12841 | 7.5 | 32 |
| Follistatin-related protein 3 | O95633 | 7.94 | 35 |
| Galectin-3-binding protein | Q08380 | 6.09 | 39 |
| Gelsolin | P06396 | 7.98 | 11 |
| Glucagon | P01275 | 13.86 | 79 |
| Glutamate carboxypeptidase 2 | Q04609 | 15.16 | 60 |
| Glypican-5 | P78333 | 8.99 | 73 |
| Granulins | P28799 | 7.96 | 31 |

| Target Full Name | UniProt | [A] Percent higher in umbilical vein in term placenta | [B] Percent higher in umbilical vein in preterm placenta |
|---|---|---|---|
| Granulocyte colony-stimulating factor | P09919 | 26.07 | 551 |
| Growth arrest-specific protein 1 | P54826 | 6.49 | 36 |
| Growth/differentiation factor 15 | Q99988 | 9.89 | 23 |
| Heat shock 70 kDa protein 1A | P0DMV8 | 10.02 | 69 |
| Hemopexin | P02790 | 9.7 | 10 |
| Heparan-sulfate 6-O-sulfotransferase 1 | O60243 | 7.08 | 32 |
| Heparin cofactor 2 | P05546 | 11.5 | 9 |
| Hepatitis A virus cellular receptor 2 | Q8TDQ0 | 7 | 46 |
| Hepatocyte growth factor activator | Q04756 | 9.14 | 12 |
| Hepatocyte growth factor receptor | P08581 | 8.17 | 39 |
| Human Chorionic Gonadotropin | P01215,P01233 | 20.62 | 156 |
| Iduronate 2-sulfatase | P22304 | 25.87 | 199 |
| Immunoglobulin superfamily containing leucine-rich repeat protein 2 | Q6UXK2 | 5.69 | 75 |
| Inhibin beta A chain | P08476 | 42.77 | 474 |
| Insulin receptor | P06213 | 18.5 | 230 |
| Insulin-like growth factor 1 receptor | P08069 | 9.35 | 67 |
| Insulin-like growth factor-binding protein 1 | P08833 | 7.35 | 32 |
| Insulin-like growth factor-binding protein 4 | P22692 | 10.03 | 26 |
| Insulin-like growth factor-binding protein 7 | Q16270 | 6.21 | 31 |
| Integrin alpha-V: beta-5 complex | P06756, P18084 | 5.62 | 23 |
| Intercellular adhesion molecule 1 | P05362 | 5.25 | 15 |
| Intercellular adhesion molecule 5 | Q9UMF0 | 5.89 | 31 |
| Interferon alpha/beta receptor 1 | P17181 | 19.89 | 187 |
| Interferon gamma | P01579 | 12.98 | 128 |
| Interferon gamma receptor 1 | P15260 | 16.31 | 167 |
| Interleukin-1 Receptor accessory protein | Q9NPH3 | 8.16 | 40 |
| Interleukin-1 receptor type 1 | P14778 | 40.91 | 339 |
| Interleukin-1 receptor type 2 | P27930 | 8.23 | 38 |
| Interleukin-13 receptor subunit alpha-1 | P78552 | 5.35 | 36 |
| Interleukin-18 receptor 1 | Q13478 | 6.36 | 52 |
| Interleukin-2 | P60568 | 15.31 | 91 |
| Interleukin-22 receptor subunit alpha-2 | Q969J5 | 19.72 | 209 |
| Interleukin-23 | P29460, Q9NPF7 | 26.51 | 297 |
| Interleukin-27 receptor subunit alpha | Q6UWB1 | 5.96 | 27 |
| Interleukin-6 receptor subunit alpha | P08887 | 8.43 | 37 |
| Interleukin-6 receptor subunit beta | P40189 | 8.36 | 42 |
| Kallikrein-11 | Q9UBX7 | 14.97 | 108 |

| Target Full Name | UniProt | [A] Percent higher in umbilical vein in term placenta | [B] Percent higher in umbilical vein in preterm placenta |
|---|---|---|---|
| Kallikrein-8 | O60259 | 22.92 | 299 |
| Kunitz-type protease inhibitor 1 | O43278 | 18.57 | 175 |
| Lactadherin | Q08431 | 19.25 | 128 |
| Latent-transforming growth factor beta-binding protein 4 | Q8N2S1 | 5.53 | 30 |
| Layilin | Q6UX15 | 7.22 | 94 |
| Leucine-rich repeat transmembrane protein FLRT2 | O43155 | 6.86 | 82 |
| Leucine-rich repeat transmembrane protein FLRT3 | Q9NZU0 | 47.07 | 844 |
| Leucine-rich repeats and immunoglobulin-like domains protein 3 | Q6UXM1 | 19.26 | 227 |
| Leukocyte immunoglobulin-like receptor subfamily B member 1 | Q8NHL6 | 8.79 | 38 |
| Leukocyte immunoglobulin-like receptor subfamily B member 2 | Q8N423 | 8.3 | 34 |
| Limbic system-associated membrane protein | Q13449 | 7.88 | 45 |
| Lithostathine-1-alpha | P05451 | 9.12 | 41 |
| Low affinity immunoglobulin epsilon Fc receptor | P06734 | 7.84 | 34 |
| Low affinity immunoglobulin gamma Fc region receptor II-b | P31994 | 7.36 | 21 |
| Low-density lipoprotein receptor-related protein 1, soluble | Q07954 | 13.82 | 99 |
| Low-density lipoprotein receptor-related protein 8 | Q14114 | 16.14 | 158 |
| Lumican | P51884 | 8.33 | 11 |
| Lymphocyte activation gene 3 protein | P18627 | 15.04 | 70 |
| Lymphotoxin alpha1:beta2 | P01374, Q06643 | 29.04 | 179 |
| Lymphotoxin alpha2:beta1 | P01374, Q06643 | 5.19 | 39 |
| Lysozyme C | P61626 | 5.62 | 29 |
| Macrophage mannose receptor 1 | P22897 | 6.89 | 35 |
| Macrophage metalloelastase (MMP-12) | P39900 | 10.61 | 67 |
| Matrilin-2 | O00339 | 6.24 | 28 |
| Matrilysin | P09237 | 8.08 | 51 |
| Mediator of RNA polymerase II transcription subunit 1 | Q15648 | 6.89 | 37 |
| Melanoma-derived growth regulatory protein | Q16674 | 6.96 | 36 |
| MHC class I polypeptide-related sequence A | Q29983 | 29.89 | 262 |
| MHC class I polypeptide-related sequence B | Q29980 | 15.38 | 145 |
| Myoglobin | P02144 | 15.84 | 33 |
| N-acylethanolamine-hydrolyzing acid amidase | Q02083 | 32.26 | 382 |
| N-terminal pro-BNP | P16860 | 11.94 | 142 |
| NADPH--cytochrome P450 reductase | P16435 | 10.43 | 99 |
| Natural cytotoxicity triggering receptor 1 | O76036 | 4.35 | 39 |
| Netrin receptor UNC5C | O95185 | 6.49 | 35 |
| Neural cell adhesion molecule 1, 120 kDa isoform | P13591 | 8.26 | 38 |
| Neural cell adhesion molecule L1 | P32004 | 7.61 | 26 |

| Target Full Name | UniProt | [A] Percent higher in umbilical vein in term placenta | [B] Percent higher in umbilical vein in preterm placenta |
|---|---|---|---|
| Neurexin-1-beta | P58400 | 10.41 | 117 |
| Neurexin-3-beta | Q9HDB5 | 6.86 | 30 |
| Neuroblastoma suppressor of tumorigenicity 1 | P41271 | 32.18 | 477 |
| Neurogenic locus notch homolog protein 1 | P46531 | 7.5 | 35 |
| Neuronal cell adhesion molecule | Q92823 | 11.12 | 124 |
| Neuronal growth regulator 1 | Q7Z3B1 | 5.88 | 25 |
| Neuropilin-1 | O14786 | 16.71 | 85 |
| Neutrophil gelatinase-associated lipocalin | P80188 | 6.56 | 28 |
| NT-3 growth factor receptor | Q16288 | 28.17 | 179 |
| Osteomodulin | Q99983 | 8.4 | 47 |
| Osteopontin | P10451 | 50.92 | 1375 |
| Peptide YY | P10082 | 5.61 | 43 |
| Phospholipase A2 | P04054 | 13.94 | 76 |
| Plasma protease C1 inhibitor | P05155 | 9.82 | 46 |
| Plasma serine protease inhibitor | P05154 | 6.62 | 16 |
| Platelet glycoprotein 4 | P16671 | 10.77 | 109 |
| Platelet-derived growth factor receptor alpha | P16234 | 17.94 | 201 |
| Platelet-derived growth factor receptor beta | P09619 | 23.28 | 259 |
| Plexin-B2 | O15031 | 7.99 | 36 |
| Plexin-C1 | O60486 | 6.33 | 34 |
| Pro-opiomelanocortin | P01189 | 14.91 | 131 |
| Prolactin | P01236 | 5.54 | 28 |
| Prolyl endopeptidase FAP | Q12884 | 7.32 | 42 |
| Properdin | P27918 | 43.28 | 692 |
| Proprotein convertase subtilisin/kexin type 7 | Q16549 | 15.39 | 114 |
| Proprotein convertase subtilisin/kexin type 9 | Q8NBP7 | 9.72 | 9 |
| Protein FAM3B | P58499 | 7.11 | 34 |
| Protein FAM3D | Q96BQ1 | 11.4 | 122 |
| Protein jagged-1 | P78504 | 6.72 | 28 |
| Proto-oncogene tyrosine-protein kinase receptor Ret | P07949 | 7.37 | 31 |
| R-spondin-3 | Q9BXY4 | 99.61 | 110 |
| Receptor tyrosine-protein kinase erbB-3 | P21860 | 7.87 | 34 |
| Renin | P00797 | 8.66 | 36 |
| Repulsive guidance molecule A | Q96B86 | 4.78 | 16 |
| Reticulon-4 receptor | Q9BZR6 | 6.99 | 31 |
| RGM domain family member B | Q6NW40 | 7.02 | 36 |
| Roundabout homolog 2 | Q9HCK4 | 7.01 | 32 |

| Target Full Name | UniProt | [A] Percent higher in umbilical vein in term placenta | [B] Percent higher in umbilical vein in preterm placenta |
|---|---|---|---|
| Scavenger receptor cysteine-rich type 1 protein M130 | Q86VB7 | 7.53 | 47 |
| Semaphorin-5A | Q13591 | 10.21 | 94 |
| Semaphorin-6A | Q9H2E6 | 36.84 | 531 |
| Semaphorin-6B | Q9H3T3 | 41.43 | 382 |
| Serine protease HTRA2, mitochondrial | O43464 | 31.08 | 290 |
| Serum albumin | P02768 | 10.05 | 20 |
| Sialic acid-binding Ig-like lectin 14 | Q08ET2 | 5.99 | 32 |
| Sialic acid-binding Ig-like lectin 7 | Q9Y286 | 6.19 | 21 |
| SLIT and NTRK-like protein 5 | O94991 | 46.35 | 1534 |
| Sonic hedgehog protein | Q15465 | 9.57 | 286 |
| SPARC-like protein 1 | Q14515 | 8.38 | 28 |
| Stanniocalcin-1 | P52823 | 7.68 | 31 |
| Stromelysin-2 | P09238 | 14.47 | 232 |
| T-lymphocyte surface antigen Ly-9 | Q9HBG7 | 48.63 | 312 |
| Tenascin | P24821 | 8.3 | 32 |
| Teratocarcinoma-derived growth factor 1 | P13385 | 20.67 | 232 |
| Testican-2 | Q92563 | 10.01 | 34 |
| Thrombopoietin | P40225 | 16.32 | 110 |
| Thyroid Stimulating Hormone | P01215 P01222 | 28.98 | 629 |
| Tissue Factor | P13726 | 14.64 | 192 |
| Transforming growth factor beta receptor type 3 | Q03167 | 7.06 | 39 |
| Transforming growth factor-beta-induced protein ig-h3 | Q15582 | 7.56 | 27 |
| Transmembrane glycoprotein NMB | Q14956 | 7.05 | 28 |
| Trefoil factor 2 | Q03403 | 23.25 | 136 |
| Trefoil factor 3 | Q07654 | 9.54 | 34 |
| Troponin I, fast skeletal muscle | P48788 | 9.33 | 126 |
| Trypsin-1 | P07477 | 7.35 | 38 |
| Trypsin-2 | P07478 | 6.28 | 38 |
| Tryptase beta-2 | P20231 | 6.25 | 26 |
| Tumor necrosis factor ligand superfamily member 13B | Q9Y275 | 9.23 | 48 |
| Tumor necrosis factor ligand superfamily member 15 | O95150 | 23.33 | 158 |
| Tumor necrosis factor receptor superfamily member 19 | Q9NS68 | 7.97 | 46 |
| Tumor necrosis factor receptor superfamily member 19L | Q969Z4 | 11.39 | 132 |
| Tumor necrosis factor receptor superfamily member 1A | P19438 | 6.5 | 31 |
| Tumor necrosis factor receptor superfamily member 1B | P20333 | 7.88 | 32 |
| Tumor necrosis factor receptor superfamily member 21 | O75509 | 6.52 | 36 |
| Tumor necrosis factor receptor superfamily member 6 | P25445 | 7.05 | 28 |

| Target Full Name | UniProt | [A] Percent higher in umbilical vein in term placenta | [B] Percent higher in umbilical vein in preterm placenta |
|---|---|---|---|
| Tyrosine-protein kinase JAK2 | O60674 | 6.11 | 26 |
| Tyrosine-protein kinase receptor Tie-1, soluble | P35590 | 15.48 | 40 |
| Tyrosine-protein kinase transmembrane receptor ROR1 | Q01973 | 8.44 | 49 |
| Tyrosine-protein phosphatase non-receptor type substrate 1 | P78324 | 16.93 | 111 |
| Urokinase plasminogen activator surface receptor | Q03405 | 11.29 | 98 |
| Vascular cell adhesion protein 1 | P19320 | 6.42 | 40 |
| Vascular endothelial growth factor D | O43915 | 5.96 | 29 |
| Vascular endothelial growth factor receptor 2 | P35968 | 5.87 | 31 |
| Vascular endothelial growth factor receptor 3 | P35916 | 8.09 | 38 |
| Vitamin K-dependent protein S | P07225 | 6.73 | 11 |
| WAP, Kazal, immunoglobulin, Kunitz and NTR domain-containing protein 2 | Q8TEU8 | 12.16 | 90 |

**Supplemental Table 7.** Subanalysis of differences in umbilical venous blood for the following characteristics: **[A]** prematurity, **[B]** placental pathology positive verses negative for chorioamnionitis, **[C]** delivery method, **[D]** premature rupture of membranes vs none **[E]** pre-eclampsia vs. none, **[F]** infants requiring non-invasive respiratory support vs. intubation at delivery, and **[G]** sex. Proteins shown are those with **(a)** higher or **(b)** lower relative abundance when comparing venous cord blood between each group in neonates ≤ 32 weeks of gestation (p value ≤ 0.05) using the SomaLogic platform. * significant following multiple comparisons with adjusted p-value ≤ 0.05

**Aa. Proteins with Higher Relative Abundance in Venous Cord Blood from Very (N=17) verses Extremely (N=9) Preterm Infants**

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Abelson tyrosine-protein kinase 2 | P42684 | 26 (7, 47) | 0.0065 | 0.2527 | |
| Adhesion G-protein coupled receptor G5 | Q8IZF4 | 36 (11, 66) | 0.0043 | 0.1947 | |
| Angiopoietin-related protein 4 | Q9BY76 | 59 (19, 113) | 0.0028 | 0.1739 | |
| Apolipoprotein E (isoform E2) | P02649 | 26 (1, 57) | 0.0417 | 0.443 | |
| Aurora kinase B | Q96GD4 | 21 (3, 40) | 0.0209 | 0.3559 | |
| Baculoviral IAP repeat-containing protein 5 | O15392 | 25 (4, 51) | 0.0246 | 0.3843 | |
| Beta-2-microglobulin | P61769 | 26 (10, 43) | 0.0014 | 0.1237 | |
| Bone morphogenetic protein receptor type-2 | Q13873 | 20 (1, 42) | 0.0387 | 0.4325 | |
| Breast cancer anti-estrogen resistance protein 3 | O75815 | 35 (9, 68) | 0.0095 | 0.277 | |
| C-C motif chemokine 1 | P22362 | 17 (3, 35) | 0.0188 | 0.3559 | |
| C-C motif chemokine 3-like 1 | P16619 | 21 (2, 44) | 0.0287 | 0.4083 | |
| Cadherin-15 | P55291 | 30 (7, 59) | 0.0101 | 0.2826 | |
| Carbonic anhydrase-related protein 10 | Q9NS85 | 19 (1, 39) | 0.0348 | 0.4183 | |
| Casein kinase II 2-alpha:2-beta heterotetramer | P68400.P67870 | 89 (12, 220) | 0.0197 | 0.3559 | |
| CD226 antigen | Q15762 | 29 (5, 59) | 0.0177 | 0.3534 | |
| CD97 antigen | P48960 | 38 (13, 69) | 0.0033 | 0.1739 | |
| Complement component C8 | P07357.P07358.P07360 | 33 (11, 59) | 0.0037 | 0.1798 | |
| Cyclin-dependent kinase 5:Cyclin-dependent kinase 5 activator 1 complex | Q00535.Q15078 | 20 (4, 39) | 0.018 | 0.3534 | |
| Cyclin-dependent kinase 8:Cyclin-C complex | P49336.P24863 | 31 (7, 60) | 0.0106 | 0.2844 | |
| Cystatin-M | Q15828 | 97 (53, 153) | <0.0001 | 0.0079 | * |
| Cystatin-SN | P01037 | 45 (1, 111) | 0.0472 | 0.4542 | |
| Desmocollin-2 | Q02487 | 39 (9, 74) | 0.008 | 0.2715 | |
| Discoidin domain-containing receptor 2 | Q16832 | 34 (11, 61) | 0.0042 | 0.1947 | |
| DNA repair protein RAD51 homolog 1 | Q06609 | 25 (10, 40) | 0.0012 | 0.1176 | |
| Dual specificity tyrosine-phosphorylation-regulated kinase 3 | O43781 | 26 (4, 53) | 0.0222 | 0.3687 | |
| Elafin | P19957 | 68 (14, 148) | 0.0104 | 0.2844 | |
| Endothelial monocyte-activating polypeptide 2 | Q12904 | 54 (27, 87) | 0.0001 | 0.03 | * |
| Fibroblast growth factor 19 | O95750 | 96 (7, 258) | 0.0308 | 0.4083 | |
| Fibronectin Fragment 3 | P02751 | 26 (2, 55) | 0.0328 | 0.4083 | |
| Galectin-9 | O00182 | 16 (1, 32) | 0.0416 | 0.443 | |
| GDNF family receptor alpha-3 | O60609 | 41 (13, 77) | 0.0034 | 0.1739 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Glycylpeptide N-tetradecanoyltransferase 1 | P30419 | 46 (4, 104) | 0.0298 | 0.4083 | |
| Granulocyte colony-stimulating factor receptor | Q99062 | 30 (4, 61) | 0.0203 | 0.3559 | |
| Heat shock protein beta-1 | P04792 | 77 (6, 197) | 0.0326 | 0.4083 | |
| Hexokinase-1 | P19367 | 31 (6, 61) | 0.012 | 0.2915 | |
| High affinity nerve growth factor receptor | P04629 | 47 (21, 79) | 0.0004 | 0.0542 | |
| High mobility group protein B1 | P09429 | 80 (12, 193) | 0.0194 | 0.3559 | |
| Histone deacetylase 8 | Q9BY41 | 40 (15, 71) | 0.0016 | 0.1267 | |
| Histone H2B type 2-E | Q16778 | 110 (4, 326) | 0.0416 | 0.443 | |
| Insulin-like growth factor-binding protein 5 | P24593 | 32 (1, 71) | 0.0381 | 0.4325 | |
| Interleukin-1 beta | P01584 | 53 (20, 96) | 0.0016 | 0.1267 | |
| Interleukin-34 | Q6ZMJ4 | 15 (4, 27) | 0.0089 | 0.277 | |
| Interleukin-37 | Q9NZH6 | 27 (8, 52) | 0.0069 | 0.2578 | |
| Kallikrein-12 | Q9UKR0 | 46 (6, 103) | 0.0247 | 0.3843 | |
| Leucine carboxyl methyltransferase 1 | Q9UIC8 | 22 (4, 42) | 0.0154 | 0.3223 | |
| Leukotriene A-4 hydrolase | P09960 | 30 (4, 64) | 0.0267 | 0.3947 | |
| Matrix metalloproteinase-17 | Q9ULZ9 | 39 (10, 77) | 0.0079 | 0.2715 | |
| Midkine | P21741 | 158 (23, 443) | 0.0149 | 0.3206 | |
| Mothers against decapentaplegic homolog 3 | P84022 | 40 (3, 92) | 0.0351 | 0.4183 | |
| NAD-dependent protein deacetylase sirtuin-2 | Q8IXJ6 | 53 (6, 119) | 0.0254 | 0.3855 | |
| Peptidyl-prolyl cis-trans isomerase A | P62937 | 19 (1, 40) | 0.0442 | 0.4508 | |
| Peptidyl-prolyl cis-trans isomerase B | P23284 | 39 (16, 68) | 0.001 | 0.1045 | |
| Periostin | Q15063 | 83 (16, 189) | 0.012 | 0.2915 | |
| Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit gamma isoform | P48736 | 20 (1, 43) | 0.0459 | 0.4508 | |
| Platelet endothelial cell adhesion molecule | P16284 | 29 (6, 57) | 0.0124 | 0.2915 | |
| Protein E7 HPV18 | P06788 | 22 (2, 47) | 0.0331 | 0.4083 | |
| Serine protease 27 | Q9BQR3 | 37 (6, 77) | 0.0196 | 0.3559 | |
| Serine/threonine-protein kinase 16 | O75716 | 35 (10, 65) | 0.0054 | 0.2144 | |
| Serine/threonine-protein kinase PAK 3 | O75914 | 27 (6, 49) | 0.0092 | 0.277 | |
| SH2 domain-containing protein 1A | O60880 | 42 (1, 101) | 0.0451 | 0.4508 | |
| Stabilin-2 | Q8WWQ8 | 32 (11, 57) | 0.003 | 0.1739 | |
| Thrombospondin-4 | P35443 | 44 (2, 104) | 0.0399 | 0.4343 | |
| Transcription factor AP-1 | P05412 | 20 (4, 39) | 0.0187 | 0.3559 | |
| Transcription factor IIIB 90 kDa subunit | Q92994 | 39 (9, 77) | 0.0086 | 0.2767 | |
| Troponin T, cardiac muscle | P45379 | 99 (55, 155) | <0.0001 | 0.0079 | * |
| Tumor necrosis factor receptor superfamily member 10D | Q9UBN6 | 28 (7, 53) | 0.0077 | 0.2715 | |
| Tumor necrosis factor receptor superfamily member 11B | O00300 | 39 (13, 71) | 0.003 | 0.1739 | |
| Tumor necrosis factor receptor superfamily member 13C | Q96RJ3 | 23 (6, 43) | 0.0114 | 0.2894 | |
| Tumor necrosis factor receptor superfamily member 27 | Q9HAV5 | 40 (14, 74) | 0.0029 | 0.1739 | |
| WAP, kazal, immunoglobulin, kunitz and NTR domain-containing protein 1 | Q96NZ8 | 78 (9, 191) | 0.0248 | 0.3843 | |

| Ab. Proteins with Lower Relative Abundance in Venous Cord Blood from Very (N=17) verses Extremely (N=9) Preterm Infants | | | | | |
|---|---|---|---|---|---|
| **Target Full Name** | **UniProt** | **% Difference (CI)** | **P-value** | **Adjusted P-value** | ***** |
| Adiponectin | Q15848 | -69 (-82, -48) | 0.0004 | 0.0542 | |
| Alpha-2-macroglobulin | P01023 | -29 (-45, -8) | 0.0112 | 0.2885 | |
| Aminoacylase-1 | Q03154 | -34 (-54, -4) | 0.0309 | 0.4083 | |
| Apolipoprotein L1 | O14791 | -53 (-67, -34) | 0.0002 | 0.0429 | * |
| Aromatic-L-amino-acid decarboxylase | P20711 | -20 (-36, -1) | 0.0399 | 0.4343 | |
| C-C motif chemokine 18 | P55774 | -31 (-43, -18) | 0.0004 | 0.0542 | |
| C-type lectin domain family 4 member K | Q9UJ71 | -13 (-24, -1) | 0.0382 | 0.4325 | |
| C3a anaphylatoxin des Arginine | P01024 | -44 (-68, -1) | 0.0443 | 0.4508 | |
| Calpastatin | P20810 | -32 (-43, -19) | 0.0003 | 0.0505 | |
| Carbonic anhydrase 1 | P00915 | -55 (-77, -15) | 0.0162 | 0.3331 | |
| Complement C1r subcomponent | P00736 | -49 (-71, -12) | 0.0201 | 0.3559 | |
| Complement C3 | P01024 | -55 (-78, -8) | 0.0301 | 0.4083 | |
| Cystatin-F | O76096 | -35 (-56, -4) | 0.032 | 0.4083 | |
| Cysteine-rich with EGF-like domain protein 1 | Q96HD1 | -24 (-41, -1) | 0.0388 | 0.4325 | |
| Disintegrin and metalloproteinase domain-containing protein 12 | O43184 | -15 (-29, 0) | 0.0478 | 0.4562 | |
| Dual specificity mitogen-activated protein kinase kinase 2 | P36507 | -28 (-47, -3) | 0.0322 | 0.4083 | |
| E-selectin | P16581 | -40 (-64, -1) | 0.0458 | 0.4508 | |
| Enteropeptidase | P98073 | -18 (-33, -1) | 0.0354 | 0.4183 | |
| Eotaxin | P51671 | -49 (-69, -16) | 0.0096 | 0.277 | |
| Ephrin type-A receptor 3 | P29320 | -28 (-46, -4) | 0.0286 | 0.4083 | |
| Fibroblast growth factor 17 | O60258 | -12 (-22, -1) | 0.0391 | 0.4325 | |
| Fibroblast growth factor 4 | P08620 | -21 (-36, -2) | 0.0313 | 0.4083 | |
| Fibroblast growth factor receptor 2 | P21802 | -16 (-28, -3) | 0.0224 | 0.3687 | |
| Ficolin-3 | O75636 | -27 (-44, -5) | 0.0236 | 0.3843 | |
| Glypican-2 | Q8N158 | -21 (-32, -9) | 0.0034 | 0.1739 | |
| Group IIE secretory phospholipase A2 | Q9NZK7 | -15 (-26, -1) | 0.0424 | 0.4467 | |
| Immunoglobulin A | P01876.P01877 | -38 (-57, -9) | 0.0152 | 0.3223 | |
| Immunoglobulin D | P01880 | -33 (-52, -4) | 0.0299 | 0.4083 | |
| Insulin-like growth factor-binding protein 3 | P17936 | -28 (-47, -3) | 0.0304 | 0.4083 | |
| Interleukin-10 | P22301 | -13 (-23, -1) | 0.0374 | 0.432 | |
| Interleukin-17A | Q16552 | -24 (-41, -1) | 0.0445 | 0.4508 | |
| Interleukin-20 receptor subunit alpha | Q9UHF4 | -16 (-28, -1) | 0.0331 | 0.4083 | |
| Interleukin-25 | Q9H293 | -16 (-30, -1) | 0.0443 | 0.4508 | |
| Interleukin-4 receptor subunit alpha | P24394 | -29 (-43, -12) | 0.0026 | 0.1739 | |
| Interleukin-7 | P13232 | -20 (-34, -5) | 0.0126 | 0.2915 | |
| Interleukin-9 | P15248 | -30 (-38, -19) | <0.0001 | 0.0097 | * |
| L-Selectin | P14151 | -27 (-44, -5) | 0.0261 | 0.3908 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Lactoperoxidase | P22079 | -52 (-77, -1) | 0.0465 | 0.4508 | |
| Leptin | P41159 | -39 (-57, -14) | 0.0085 | 0.2767 | |
| Leucine-rich repeat transmembrane neuronal protein 1 | Q86UE6 | -19 (-32, -5) | 0.0126 | 0.2915 | |
| Leukocyte immunoglobulin-like receptor subfamily B member 2 | Q8N423 | -37 (-59, -4) | 0.0332 | 0.4083 | |
| Low affinity immunoglobulin epsilon Fc receptor | P06734 | -23 (-41, 0) | 0.0493 | 0.4639 | |
| Low affinity immunoglobulin gamma Fc region receptor III-B | O75015 | -32 (-47, -13) | 0.0045 | 0.1954 | |
| Low molecular weight phosphotyrosine protein phosphatase | P24666 | -47 (-70, -5) | 0.0359 | 0.4183 | |
| Mannose-binding protein C | P11226 | -40 (-60, -10) | 0.0165 | 0.3345 | |
| Neurexophilin-1 | P58417 | -20 (-35, -3) | 0.0255 | 0.3855 | |
| NKG2D ligand 2 | Q9BZM5 | -14 (-24, -1) | 0.0354 | 0.4183 | |
| P-selectin | P16109 | -35 (-57, -3) | 0.0356 | 0.4183 | |
| Peroxiredoxin-5, mitochondrial | P30044 | -16 (-25, -7) | 0.0025 | 0.1739 | |
| Persephin | O60542 | -19 (-30, -7) | 0.0052 | 0.2124 | |
| Platelet glycoprotein Ib alpha chain | P07359 | -24 (-37, -9) | 0.0046 | 0.1954 | |
| Platelet glycoprotein VI | Q9HCN6 | -33 (-51, -10) | 0.011 | 0.2885 | |
| Platelet-derived growth factor subunit A | P04085 | -48 (-68, -13) | 0.0148 | 0.3206 | |
| Prolactin | P01236 | -63 (-76, -43) | 0.0002 | 0.0469 | * |
| Proteasome subunit alpha type-1 | P25786 | -17 (-31, 0) | 0.0466 | 0.4508 | |
| Protein amnionless | Q9BXJ7 | -21 (-31, -10) | 0.0009 | 0.1045 | |
| Receptor tyrosine-protein kinase erbB-4 | Q15303 | -16 (-29, -1) | 0.0452 | 0.4508 | |
| Regenerating islet-derived protein 4 | Q9BYZ8 | -31 (-50, -5) | 0.024 | 0.3843 | |
| Retinoic acid receptor responder protein 2 | Q99969 | -25 (-39, -7) | 0.0097 | 0.277 | |
| Serine/threonine-protein kinase WNK3 | Q9BYP7 | -26 (-44, -3) | 0.0302 | 0.4083 | |
| Sialic acid-binding Ig-like lectin 7 | Q9Y286 | -20 (-34, -4) | 0.0198 | 0.3559 | |
| Somatotropin | P01241 | -26 (-38, -12) | 0.0012 | 0.1176 | |
| T-lymphocyte activation antigen CD86 | P42081 | -34 (-56, 0) | 0.0486 | 0.4602 | |
| Thrombopoietin Receptor | P40238 | -24 (-37, -8) | 0.0073 | 0.2661 | |
| Thymidylate synthase | P04818 | -14 (-25, -1) | 0.0428 | 0.4474 | |
| Toll-like receptor 4 | O00206 | -25 (-41, -5) | 0.0209 | 0.3559 | |
| Transgelin-2 | P37802 | -27 (-45, -3) | 0.0312 | 0.4083 | |
| Tryptase gamma | Q9NRR2 | -15 (-26, -3) | 0.0148 | 0.3206 | |
| Tumor necrosis factor receptor superfamily member 12A | Q9NP84 | -23 (-38, -4) | 0.0211 | 0.3559 | |
| Tumor necrosis factor receptor superfamily member 17 | Q02223 | -21 (-35, -5) | 0.0148 | 0.3206 | |

| Ba. Proteins with Higher Relative Abundance in Venous Cord Blood from Placentas with Chorioamnionitis (n=14) verses Non-infected Placentas (n=12) | | | | | |
|---|---|---|---|---|---|
| **Target Full Name** | **UniProt** | **% Difference (CI)** | **P-value** | **Adjusted P-value** | ***** |
| 40S ribosomal protein S7 | P62081 | 85 (12, 207) | 0.0186 | 0.275 | |
| Alpha-1-antichymotrypsin | P01011 | 79 (29, 148) | 0.0014 | 0.0916 | |
| Alpha-1-antichymotrypsin complex | P01011 | 157 (30, 410) | 0.0091 | 0.2073 | |
| Bactericidal permeability-increasing protein | P17213 | 133 (11, 389) | 0.0278 | 0.3454 | |
| beta-adrenergic receptor kinase 1 | P25098 | 111 (23, 261) | 0.0086 | 0.2018 | |
| C-C motif chemokine 23 | P55773 | 75 (22, 153) | 0.0038 | 0.1456 | |
| C-reactive protein | P02741 | 329 (52, 1104) | 0.0082 | 0.2018 | |
| C-X-C motif chemokine 10 | P02778 | 31 (3, 66) | 0.0295 | 0.3562 | |
| C3a anaphylatoxin des Arginine | P01024 | 88 (9, 223) | 0.0242 | 0.3201 | |
| C5a anaphylatoxin | P01031 | 71 (20, 141) | 0.0045 | 0.152 | |
| CD177 antigen | Q8N6Q3 | 183 (41, 470) | 0.0057 | 0.1701 | |
| CD209 antigen | Q9NNX6 | 27 (6, 53) | 0.0133 | 0.2358 | |
| CD48 antigen | P09326 | 26 (9, 45) | 0.0035 | 0.1456 | |
| Chitinase-3-like protein 1 | P36222 | 108 (23, 251) | 0.0082 | 0.2018 | |
| Chitotriosidase-1 | Q13231 | 91 (25, 193) | 0.0045 | 0.152 | |
| CMRF35-like molecule 6 | Q08708 | 28 (4, 59) | 0.0215 | 0.305 | |
| Coagulation factor IX | P00740 | 42 (1, 100) | 0.0436 | 0.4242 | |
| COMM domain-containing protein 7 | Q86VX2 | 29 (4, 61) | 0.0243 | 0.3201 | |
| Complement C1r subcomponent | P00736 | 72 (8, 171) | 0.0251 | 0.3274 | |
| Complement C3b, inactivated | P01024 | 169 (6, 577) | 0.0377 | 0.4037 | |
| Complement C4 | P0C0L4..P0C0L5 | 46 (16, 84) | 0.0024 | 0.1183 | |
| Complement C5 | P01031 | 45 (18, 79) | 0.0011 | 0.0821 | |
| Complement C5b-C6 complex | P01031.P13671 | 38 (10, 71) | 0.0071 | 0.1951 | |
| Complement component C9 | P02748 | 376 (52, 1403) | 0.01 | 0.2189 | |
| Complement factor B | P00751 | 69 (27, 127) | 0.0009 | 0.0821 | |
| Complement factor I | P05156 | 35 (13, 60) | 0.0024 | 0.1183 | |
| Creatine kinase B-type | P12277 | 59 (17, 116) | 0.0042 | 0.1484 | |
| Cyclin-dependent kinase 2:Cyclin-A2 complex | P24941.P20248 | 108 (38, 216) | 0.0018 | 0.0977 | |
| Cystatin-F | O76096 | 62 (11, 139) | 0.0159 | 0.2523 | |
| Death-associated protein kinase 2 | Q9UIK4 | 39 (1, 95) | 0.0464 | 0.4253 | |
| Dual specificity protein phosphatase 3 | P51452 | 53 (1, 131) | 0.0422 | 0.4242 | |
| Dynein light chain roadblock-type 1 | Q9NP97 | 130 (16, 356) | 0.0192 | 0.281 | |
| E-selectin | P16581 | 83 (14, 193) | 0.0139 | 0.2394 | |
| Glucose-6-phosphate isomerase | P06744 | 68 (8, 162) | 0.0233 | 0.3201 | |
| Granulocyte colony-stimulating factor | P09919 | 636 (107, 2499) | 0.0035 | 0.1456 | |
| Growth/differentiation factor 9 | O60383 | 23 (1, 52) | 0.0445 | 0.4244 | |
| HCE000104 | HCE000104 | 1 (1, 3) | 0.0109 | 0.2206 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| HCE000483 | HCE000483 | 1 (0, 3) | 0.0238 | 0.3201 | |
| Hepcidin | P81172 | 266 (54, 775) | 0.0053 | 0.1632 | |
| Heterogeneous nuclear ribonucleoprotein K | P61978 | 22 (1, 46) | 0.0338 | 0.3715 | |
| Histone H1.2 | P16403 | 150 (21, 417) | 0.0156 | 0.2501 | |
| Histone H2A type 3 | Q7L7L0 | 166 (16, 511) | 0.0238 | 0.3201 | |
| Histone H3.1 | P68431 | 68 (9, 157) | 0.0197 | 0.2822 | |
| Importin subunit alpha-1 | P52292 | 85 (34, 157) | 0.0008 | 0.0805 | |
| Inosine-5'-monophosphate dehydrogenase 1 | P20839 | 148 (55, 297) | 0.0005 | 0.0805 | |
| Insulin | P01308 | 34 (8, 66) | 0.0104 | 0.2206 | |
| Interleukin-1 receptor antagonist protein | P18510 | 641 (232, 1568) | 0.0001 | 0.0183 | * |
| Interleukin-16 | Q14005 | 48 (9, 101) | 0.013 | 0.2355 | |
| Interleukin-20 | Q9NYY1 | 13 (0, 28) | 0.0458 | 0.4253 | |
| Interleukin-6 | P05231 | 906 (227, 2991) | 0.0006 | 0.0805 | |
| Kelch-like ECH-associated protein 1 | Q14145 | 53 (16, 100) | 0.004 | 0.1484 | |
| Lactotransferrin | P02788 | 181 (53, 417) | 0.0019 | 0.1002 | |
| Lipopolysaccharide-binding protein | P18428 | 79 (45, 120) | <0.0001 | 0.0089 | * |
| Lithostathine-1-alpha | P05451 | 58 (13, 119) | 0.0087 | 0.2018 | |
| Low affinity immunoglobulin epsilon Fc receptor | P06734 | 45 (11, 89) | 0.0079 | 0.2018 | |
| Low affinity immunoglobulin gamma Fc region receptor II-a | P12318 | 306 (27, 1182) | 0.0195 | 0.2821 | |
| Low affinity immunoglobulin gamma Fc region receptor III-B | O75015 | 30 (1, 68) | 0.0457 | 0.4253 | |
| Macrophage metalloelastase | P39900 | 145 (25, 376) | 0.0113 | 0.2206 | |
| Macrophage-capping protein | P40121 | 97 (30, 199) | 0.0027 | 0.1205 | |
| MAP kinase-activated protein kinase 3 | Q16644 | 65 (1, 168) | 0.0459 | 0.4253 | |
| Matrix metalloproteinase-9 | P14780 | 49 (13, 100) | 0.0084 | 0.2018 | |
| Mitogen-activated protein kinase 14 | Q16539 | 64 (4, 157) | 0.0337 | 0.3715 | |
| Myeloblastin | P24158 | 350 (153, 706) | <0.0001 | 0.0117 | * |
| Myeloperoxidase | P05164 | 347 (136, 751) | 0.0001 | 0.0183 | * |
| Myoglobin | P02144 | 128 (58, 227) | 0.0001 | 0.0205 | * |
| Neurexin-3-beta | Q9HDB5 | 57 (24, 100) | 0.0008 | 0.0805 | |
| Neutrophil collagenase | P22894 | 84 (15, 195) | 0.0141 | 0.2394 | |
| Neutrophil gelatinase-associated lipocalin | P80188 | 181 (87, 323) | <0.0001 | 0.0117 | * |
| Nicotinamide phosphoribosyltransferase | P43490 | 53 (4, 123) | 0.0328 | 0.371 | |
| Oxidized low-density lipoprotein receptor 1 | P78380 | 79 (3, 214) | 0.0397 | 0.4175 | |
| P-selectin | P16109 | 40 (1, 96) | 0.0476 | 0.4253 | |
| Peptidoglycan recognition protein 1 | O75594 | 193 (60, 435) | 0.0013 | 0.0916 | |
| Phospholipase A2, membrane associated | P14555 | 138 (21, 366) | 0.0142 | 0.2394 | |
| Prostaglandin G/H synthase 2 | P35354 | 51 (4, 120) | 0.033 | 0.371 | |
| Protein kinase C zeta type | Q05513 | 44 (1, 106) | 0.0432 | 0.4242 | |
| Protein S100-A12 | P80511 | 79 (13, 185) | 0.0164 | 0.2557 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Protein S100-A9 | P06702 | 122 (58, 212) | 0.0001 | 0.0183 | * |
| Resistin | Q9HD89 | 141 (51, 286) | 0.0008 | 0.0805 | |
| RNA-binding protein 39 | Q14498 | 47 (14, 92) | 0.0052 | 0.1632 | |
| Serum amyloid A-1 protein | P0DJI8 | 366 (61, 1236) | 0.0073 | 0.1951 | |
| Serum amyloid P-component | P02743 | 106 (16, 268) | 0.0167 | 0.2557 | |
| Sialic acid-binding Ig-like lectin 14 | Q08ET2 | 97 (33, 193) | 0.0015 | 0.0916 | |
| Sialic acid-binding Ig-like lectin 7 | Q9Y286 | 27 (7, 51) | 0.0071 | 0.1951 | |
| Signal transducer and activator of transcription 6 | P42226 | 38 (3, 85) | 0.0321 | 0.3704 | |
| TATA-box-binding protein | P20226 | 85 (19, 187) | 0.0087 | 0.2018 | |
| Transforming growth factor beta-3 | P10600 | 17 (1, 38) | 0.0448 | 0.4244 | |
| Tropomyosin beta chain | P07951 | 19 (1, 39) | 0.032 | 0.3704 | |
| Tumor necrosis factor ligand superfamily member 13B | Q9Y275 | 29 (0, 67) | 0.0477 | 0.4253 | |
| Tumor necrosis factor receptor superfamily member 1A | P19438 | 33 (13, 57) | 0.0012 | 0.0855 | |
| Tumor necrosis factor receptor superfamily member 1B | P20333 | 44 (14, 83) | 0.0037 | 0.1456 | |
| Tumor necrosis factor receptor superfamily member 8 | P28908 | 21 (1, 46) | 0.0438 | 0.4242 | |
| Tyrosine-protein kinase Lyn, isoform B | P07948 | 114 (1, 356) | 0.0478 | 0.4253 | |
| Tyrosine-protein kinase Yes | P07947 | 44 (4, 103) | 0.0337 | 0.3715 | |
| Tyrosine-protein phosphatase non-receptor type 2 | P17706 | 23 (4, 44) | 0.0155 | 0.2501 | |
| X-ray repair cross-complementing protein 6 | P12956 | 74 (3, 195) | 0.0392 | 0.4167 | |

**Bb. Proteins with Lower Relative Abundance in Venous Cord Blood from Placentas with Chorioamnionitis (n=14) verses Non-infected Placentas (n=12)**

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| A disintegrin and metalloproteinase with thrombospondin motifs 5 | Q9UNA0 | -19 (-34, 0) | 0.0469 | 0.4253 | |
| Advanced glycosylation end product-specific receptor, soluble | Q15109 | -43 (-60, -17) | 0.0049 | 0.1604 | |
| Ankyrin-2 | Q01484 | -23 (-37, -7) | 0.0113 | 0.2206 | |
| Bone morphogenetic protein receptor type-1A | P36894 | -26 (-37, -14) | 0.0006 | 0.0805 | |
| Brain-specific serine protease 4 | Q9GZN4 | -24 (-41, -1) | 0.0426 | 0.4242 | |
| C-C motif chemokine 28 | Q9NRJ3 | -45 (-60, -22) | 0.0016 | 0.0937 | |
| Cadherin-3 | P22223 | -23 (-34, -11) | 0.001 | 0.0821 | |
| Carbonic anhydrase 6 | P23280 | -44 (-67, -3) | 0.0374 | 0.4037 | |
| Carboxypeptidase E | P16870 | -29 (-48, -2) | 0.0364 | 0.3965 | |
| Catalase | P04040 | -37 (-59, -4) | 0.032 | 0.3704 | |
| Cerebral dopamine neurotrophic factor | Q49AH0 | -30 (-48, -7) | 0.0167 | 0.2557 | |
| Chorionic somatomammotropin hormone | P0DML2.P0DML3 | -60 (-79, -24) | 0.0085 | 0.2018 | |
| Collectin-11 | Q9BWP8 | -32 (-48, -11) | 0.0071 | 0.1951 | |
| Complement component C7 | P10643 | -27 (-42, -7) | 0.012 | 0.2249 | |
| Contactin-1 | Q12860 | -31 (-51, -5) | 0.0264 | 0.3378 | |
| Contactin-2 | Q02246 | -31 (-51, -4) | 0.0287 | 0.3534 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Corticosteroid-binding globulin | P08185 | -25 (-41, -5) | 0.018 | 0.269 | |
| Diablo homolog, mitochondrial | Q9NR28 | -20 (-30, -8) | 0.0037 | 0.1456 | |
| Erythropoietin receptor | P19235 | -28 (-49, 0) | 0.0481 | 0.4253 | |
| Eukaryotic translation initiation factor 5 | P55010 | -27 (-45, -3) | 0.032 | 0.3704 | |
| Eukaryotic translation initiation factor 5A-1 | P63241 | -26 (-45, 0) | 0.0486 | 0.4271 | |
| Fibroblast growth factor 10 | O15520 | -31 (-48, -7) | 0.0153 | 0.2501 | |
| Fibronectin | P02751.2 | -28 (-46, -5) | 0.024 | 0.3201 | |
| gp41 C34 peptide, HIV | Q70626 | -30 (-49, -5) | 0.0267 | 0.3382 | |
| Granulocyte colony-stimulating factor receptor | Q99062 | -24 (-41, -1) | 0.0399 | 0.4175 | |
| Growth/differentiation factor 11/8 | O95390.O14793 | -34 (-53, -10) | 0.0121 | 0.2249 | |
| Growth/differentiation factor 8 | O14793 | -40 (-55, -21) | 0.0011 | 0.0821 | |
| GTP-binding nuclear protein Ran | P62826 | -70 (-91, -4) | 0.0431 | 0.4242 | |
| HCE003183 | HCE003183 | -1 (-2, 0) | 0.0131 | 0.2355 | |
| Integrin alpha-IIb: beta-3 complex | P08514.P05106 | -25 (-43, -1) | 0.0403 | 0.4178 | |
| Kunitz-type protease inhibitor 2 | O43291 | -36 (-56, -5) | 0.0271 | 0.3401 | |
| Leukemia inhibitory factor receptor | P42702 | -35 (-53, -10) | 0.011 | 0.2206 | |
| Mesothelin | Q13421 | -34 (-55, -1) | 0.0417 | 0.4242 | |
| Metalloproteinase inhibitor 2 | P16035 | -25 (-36, -12) | 0.0015 | 0.0916 | |
| Neural cell adhesion molecule 1, 120 kDa isoform | P13591 | -30 (-48, -7) | 0.0171 | 0.2592 | |
| Neural cell adhesion molecule L1-like protein | O00533 | -27 (-47, 0) | 0.0499 | 0.434 | |
| Neurogenic locus notch homolog protein 3 | Q9UM47 | -23 (-40, -1) | 0.0437 | 0.4242 | |
| Neurotrophin-3 | P20783 | -19 (-34, -1) | 0.0429 | 0.4242 | |
| Neutral ceramidase | Q9NR71 | -27 (-40, -12) | 0.0025 | 0.1183 | |
| Noggin | Q13253 | -46 (-66, -13) | 0.0152 | 0.2501 | |
| Parathyroid hormone | P01270 | -44 (-63, -14) | 0.0112 | 0.2206 | |
| Periostin | Q15063 | -39 (-63, -1) | 0.0476 | 0.4253 | |
| Phosphoglucomutase-1 | P36871 | -18 (-29, -5) | 0.0097 | 0.2158 | |
| Plasma kallikrein | P03952 | -16 (-30, -1) | 0.0448 | 0.4244 | |
| Platelet-activating factor acetylhydrolase IB subunit beta | P68402 | -25 (-39, -9) | 0.0064 | 0.1868 | |
| RAC-beta serine/threonine-protein kinase | P31751 | -37 (-57, -7) | 0.0218 | 0.3054 | |
| Receptor tyrosine-protein kinase erbB-3 | P21860 | -27 (-43, -8) | 0.0106 | 0.2206 | |
| Serotransferrin | P02787 | -20 (-31, -7) | 0.0042 | 0.1484 | |
| Sex hormone-binding globulin | P04278 | -33 (-51, -9) | 0.0114 | 0.2206 | |
| SPARC | P09486 | -34 (-52, -10) | 0.0116 | 0.2206 | |
| Stromal cell-derived factor 1 | P48061 | -26 (-39, -9) | 0.0052 | 0.1632 | |
| Superoxide dismutase [Mn], mitochondrial | P04179 | -20 (-34, -3) | 0.0258 | 0.3337 | |
| Transmembrane glycoprotein NMB | Q14956 | -34 (-55, -5) | 0.029 | 0.3534 | |
| Tumor necrosis factor receptor superfamily member 13C | Q96RJ3 | -16 (-29, -1) | 0.0328 | 0.371 | |
| Tumor necrosis factor-inducible gene 6 protein | P98066 | -22 (-37, -3) | 0.0303 | 0.3629 | |
| Vacuolar protein sorting-associated protein VTA1 homolog | Q9NP79 | -37 (-56, -10) | 0.0134 | 0.2358 | |

| Ca. Proteins with Higher Relative Abundance in Venous Cord Blood from Infants Born via Cesearean Delivery (n= 18) verses Vaginal Delivery (n=8) | | | | | |
|---|---|---|---|---|---|
| **Target Full Name** | **UniProt** | **% Difference (CI)** | **P-value** | **Adjusted P-value** | ***** |
| 14-3-3 protein sigma | P31947 | 55 (5, 130) | 0.0309 | 0.6388 | |
| 14-3-3 protein zeta/delta | P63104 | 25 (1, 53) | 0.0368 | 0.663 | |
| Alpha-1-antichymotrypsin | P01011 | 113 (45, 214) | 0.0012 | 0.4655 | |
| Alpha-1-antichymotrypsin complex | P01011 | 189 (13, 631) | 0.03 | 0.6367 | |
| B-cell lymphoma 6 protein | P41182 | 53 (6, 119) | 0.0282 | 0.6298 | |
| beta-adrenergic receptor kinase 1 | P25098 | 88 (13, 214) | 0.0189 | 0.5982 | |
| C-reactive protein | P02741 | 813 (229, 2446) | 0.0004 | 0.4264 | |
| C5a anaphylatoxin | P01031 | 67 (3, 171) | 0.0408 | 0.6724 | |
| Cathepsin D | P07339 | 53 (12, 108) | 0.0106 | 0.5781 | |
| CD177 antigen | Q8N6Q3 | 268 (45, 832) | 0.011 | 0.5781 | |
| CD48 antigen | P09326 | 27 (6, 53) | 0.016 | 0.5982 | |
| Coagulation factor IX | P00740 | 61 (4, 151) | 0.0362 | 0.6628 | |
| Complement C1r subcomponent | P00736 | 71 (5, 175) | 0.0325 | 0.6388 | |
| Complement C4 | P0C0L4..P0C0L5 | 36 (12, 65) | 0.0035 | 0.4655 | |
| Complement C5 | P01031 | 51 (16, 96) | 0.0059 | 0.4655 | |
| Complement C5b-C6 complex | P01031.P13671 | 43 (6, 95) | 0.0232 | 0.5982 | |
| Complement component C9 | P02748 | 662 (97, 2845) | 0.0068 | 0.4655 | |
| Complement factor I | P05156 | 31 (0, 72) | 0.0492 | 0.6724 | |
| Creatine kinase B-type | P12277 | 60 (4, 146) | 0.0375 | 0.6636 | |
| Cystatin-F | O76096 | 108 (26, 243) | 0.0091 | 0.5212 | |
| Cytochrome P450 3A4 | P08684 | 28 (6, 56) | 0.013 | 0.5982 | |
| Dual specificity mitogen-activated protein kinase kinase 2 | P36507 | 41 (1, 99) | 0.0454 | 0.6724 | |
| Glucose-6-phosphate isomerase | P06744 | 64 (8, 150) | 0.0235 | 0.5982 | |
| Growth/differentiation factor 9 | O60383 | 23 (3, 48) | 0.0275 | 0.6252 | |
| GTPase KRas | P01116 | 27 (2, 56) | 0.0329 | 0.6388 | |
| Hepcidin | P81172 | 232 (56, 606) | 0.0031 | 0.4655 | |
| Inosine-5'-monophosphate dehydrogenase 1 | P20839 | 100 (25, 218) | 0.0057 | 0.4655 | |
| Interferon gamma receptor 2 | P38484 | 16 (3, 33) | 0.0194 | 0.5982 | |
| Interleukin-22 | Q9GZX6 | 127 (2, 406) | 0.0462 | 0.6724 | |
| Leukocyte immunoglobulin-like receptor subfamily B member 1 | Q8NHL6 | 42 (8, 87) | 0.0151 | 0.5982 | |
| Lipopolysaccharide-binding protein | P18428 | 51 (14, 97) | 0.0064 | 0.4655 | |
| Lithostathine-1-alpha | P05451 | 58 (7, 133) | 0.0241 | 0.5982 | |
| Low affinity immunoglobulin gamma Fc region receptor III-B | O75015 | 33 (1, 73) | 0.0401 | 0.6724 | |
| Macrophage-capping protein | P40121 | 95 (5, 261) | 0.0378 | 0.6636 | |
| MAP kinase-activated protein kinase 2 | P49137 | 42 (1, 100) | 0.0425 | 0.6724 | |
| Muellerian-inhibiting factor | P03971 | 97 (10, 253) | 0.0259 | 0.608 | |
| Myeloblastin | P24158 | 225 (26, 740) | 0.0193 | 0.5982 | |
| Myeloperoxidase | P05164 | 253 (35, 819) | 0.0146 | 0.5982 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Myoglobin | P02144 | 93 (13, 232) | 0.0215 | 0.5982 | |
| Neurexin-3-beta | Q9HDB5 | 56 (7, 125) | 0.0248 | 0.5982 | |
| Neutrophil gelatinase-associated lipocalin | P80188 | 164 (51, 363) | 0.0027 | 0.4655 | |
| P-selectin | P16109 | 51 (9, 110) | 0.0171 | 0.5982 | |
| Phospholipase A2, membrane associated | P14555 | 164 (4, 573) | 0.0436 | 0.6724 | |
| Proprotein convertase subtilisin/kexin type 9 | Q8NBP7 | 38 (4, 83) | 0.03 | 0.6367 | |
| Protein kinase C beta type (splice variant beta-II) | P05771 | 73 (19, 150) | 0.006 | 0.4655 | |
| Protein kinase C theta type | Q04759 | 23 (4, 46) | 0.0186 | 0.5982 | |
| Protein S100-A9 | P06702 | 74 (9, 179) | 0.0228 | 0.5982 | |
| Resistin | Q9HD89 | 203 (79, 410) | 0.0006 | 0.4264 | |
| Scavenger receptor cysteine-rich type 1 protein M130 | Q86VB7 | 42 (5, 93) | 0.0242 | 0.5982 | |
| Serum amyloid A-1 protein | P0DJI8 | 678 (44, 4122) | 0.0231 | 0.5982 | |
| Serum amyloid P-component | P02743 | 183 (56, 413) | 0.0024 | 0.4655 | |
| Sialic acid-binding Ig-like lectin 14 | Q08ET2 | 73 (4, 187) | 0.0353 | 0.6555 | |
| Tumor necrosis factor ligand superfamily member 13B | Q9Y275 | 33 (1, 77) | 0.0462 | 0.6724 | |
| Vitamin K-dependent protein S | P07225 | 18 (0, 39) | 0.0484 | 0.6724 | |

**Cb. Proteins with Lower Relative Abundance in Venous Cord Blood from Infants Born via Cesearean Delivery (n= 18) verses Vaginal Delviery (n=8)**

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Ankyrin-2 | Q01484 | -18 (-31, -1) | 0.0346 | 0.6529 | |
| Bone morphogenetic protein receptor type-1A | P36894 | -19 (-34, -2) | 0.033 | 0.6388 | |
| Cadherin-3 | P22223 | -18 (-29, -5) | 0.0121 | 0.5982 | |
| Carboxypeptidase E | P16870 | -34 (-53, -9) | 0.0157 | 0.5982 | |
| Cerebral dopamine neurotrophic factor | Q49AH0 | -29 (-47, -4) | 0.0269 | 0.6207 | |
| Chordin-like protein 1 | Q9BU40 | -21 (-35, -3) | 0.0216 | 0.5982 | |
| Collectin-11 | Q9BWP8 | -31 (-50, -5) | 0.025 | 0.5982 | |
| Complement decay-accelerating factor | P08174 | -17 (-29, -3) | 0.0226 | 0.5982 | |
| Contactin-2 | Q02246 | -33 (-52, -6) | 0.0227 | 0.5982 | |
| Contactin-4 | Q8IWV2 | -26 (-43, -5) | 0.02 | 0.5982 | |
| Cystatin-SN | P01037 | -31 (-50, -3) | 0.0318 | 0.6388 | |
| Dual specificity mitogen-activated protein kinase kinase 4 | P45985 | -35 (-51, -14) | 0.0051 | 0.4655 | |
| Endothelial cell-specific molecule 1 | Q9NQ30 | -20 (-35, -1) | 0.0424 | 0.6724 | |
| Ephrin-A3 | P52797 | -37 (-58, -5) | 0.0291 | 0.6367 | |
| Fibroblast growth factor receptor 1 | P11362 | -25 (-44, -1) | 0.0475 | 0.6724 | |
| Follistatin-related protein 1 | Q12841 | -19 (-35, 0) | 0.0481 | 0.6724 | |
| GDNF family receptor alpha-2 | O00451 | -13 (-22, -3) | 0.0179 | 0.5982 | |
| gp41 C34 peptide, HIV | Q70626 | -30 (-49, -3) | 0.0315 | 0.6388 | |
| Granulocyte colony-stimulating factor receptor | Q99062 | -29 (-44, -10) | 0.0071 | 0.4655 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Growth/differentiation factor 11/8 | O95390.O14793 | -29 (-49, -1) | 0.046 | 0.6724 | |
| Growth/differentiation factor 8 | O14793 | -33 (-52, -8) | 0.0163 | 0.5982 | |
| HCE003300 | HCE003300 | -1 (-2, 0) | 0.0222 | 0.5982 | |
| Hyaluronan and proteoglycan link protein 1 | P10915 | -49 (-73, -1) | 0.0475 | 0.6724 | |
| Intercellular adhesion molecule 5 | Q9UMF0 | -28 (-43, -9) | 0.0076 | 0.477 | |
| Interferon regulatory factor 1 | P10914 | -40 (-63, -1) | 0.0451 | 0.6724 | |
| Interleukin-17 receptor D | Q8NFM7 | -19 (-29, -9) | 0.0017 | 0.4655 | |
| Leukemia inhibitory factor receptor | P42702 | -33 (-49, -12) | 0.0063 | 0.4655 | |
| Metalloproteinase inhibitor 2 | P16035 | -24 (-41, -1) | 0.04 | 0.6724 | |
| Neural cell adhesion molecule 1, 120 kDa isoform | P13591 | -29 (-49, -1) | 0.0435 | 0.6724 | |
| Neuronal growth regulator 1 | Q7Z3B1 | -16 (-29, -1) | 0.0411 | 0.6724 | |
| Parathyroid hormone | P01270 | -43 (-59, -20) | 0.0018 | 0.4655 | |
| Periostin | Q15063 | -45 (-65, -12) | 0.0148 | 0.5982 | |
| Phosphoglucomutase-1 | P36871 | -13 (-24, 0) | 0.0468 | 0.6724 | |
| Receptor tyrosine-protein kinase erbB-2 | P04626 | -32 (-51, -5) | 0.0246 | 0.5982 | |
| Receptor tyrosine-protein kinase erbB-3 | P21860 | -25 (-39, -8) | 0.008 | 0.48 | |
| Reticulon-4 receptor | Q9BZR6 | -18 (-32, -1) | 0.0347 | 0.6529 | |
| Sex hormone-binding globulin | P04278 | -40 (-56, -18) | 0.004 | 0.4655 | |
| SPARC-like protein 1 | Q14515 | -38 (-54, -16) | 0.004 | 0.4655 | |
| Superoxide dismutase [Mn], mitochondrial | P04179 | -17 (-31, 0) | 0.0486 | 0.6724 | |
| Thrombospondin-4 | P35443 | -29 (-50, 0) | 0.0494 | 0.6724 | |
| Transmembrane glycoprotein NMB | Q14956 | -33 (-51, -7) | 0.0196 | 0.5982 | |
| Tumor necrosis factor receptor superfamily member 4 | P43489 | -18 (-28, -6) | 0.0068 | 0.4655 | |

| Da. Proteins with Higher Relative Abundance in Venous Cord Blood from Infants Born to Mothers with Premature Rupture of Membranes (N=13) versus None (N=13) | | | | | |
|---|---|---|---|---|---|
| **Target Full Name** | **UniProt** | **% Difference (CI)** | **P-value** | **Adjusted P-value** | ***** |
| 2'-5'-oligoadenylate synthase 1 | P00973 | 27 (3, 58) | 0.0312 | 0.513 | |
| 3-phosphoinositide-dependent protein kinase 1 | O15530 | 67 (2, 173) | 0.0412 | 0.5301 | |
| 40S ribosomal protein S7 | P62081 | 79 (9, 193) | 0.0243 | 0.513 | |
| Adhesion G protein-coupled receptor E2 | Q9UHX3 | 30 (1, 66) | 0.0374 | 0.5301 | |
| Agouti-related protein | O00253 | 157 (3, 541) | 0.0433 | 0.5301 | |
| Alpha-1-antichymotrypsin | P01011 | 59 (9, 130) | 0.0178 | 0.513 | |
| Amphoterin-induced protein 2 | Q86SJ2 | 173 (16, 545) | 0.024 | 0.513 | |
| Arginase-1 | P05089 | 125 (9, 366) | 0.0302 | 0.513 | |
| beta-adrenergic receptor kinase 1 | P25098 | 80 (2, 216) | 0.0423 | 0.5301 | |
| Brother of CDO | Q9BWV1 | 229 (9, 892) | 0.0359 | 0.5301 | |
| C-C motif chemokine 23 | P55773 | 73 (19, 151) | 0.0063 | 0.513 | |
| C-reactive protein | P02741 | 218 (3, 892) | 0.0451 | 0.5301 | |
| C3a anaphylatoxin des Arginine | P01024 | 84 (6, 218) | 0.0299 | 0.513 | |
| C5a anaphylatoxin | P01031 | 73 (22, 146) | 0.0036 | 0.513 | |
| CD209 antigen | Q9NNX6 | 26 (4, 51) | 0.0175 | 0.513 | |
| Chitinase-3-like protein 1 | P36222 | 106 (21, 248) | 0.0094 | 0.513 | |
| COMM domain-containing protein 7 | Q86VX2 | 32 (5, 66) | 0.0208 | 0.513 | |
| Complement C2 | P06681 | 25 (4, 48) | 0.0191 | 0.513 | |
| Complement C3 | P01024 | 117 (6, 347) | 0.0347 | 0.5301 | |
| Complement C3b, inactivated | P01024 | 214 (31, 652) | 0.0123 | 0.513 | |
| Complement C3d fragment | P01024 | 207 (24, 662) | 0.0178 | 0.513 | |
| Complement C4 | P0C0L4..P0C0L5 | 41 (13, 78) | 0.0051 | 0.513 | |
| Complement C5 | P01031 | 36 (8, 72) | 0.0114 | 0.513 | |
| Complement C5b-C6 complex | P01031.P13671 | 32 (4, 67) | 0.0245 | 0.513 | |
| Complement component C6 | P13671 | 183 (16, 592) | 0.0244 | 0.513 | |
| Complement factor B | P00751 | 66 (23, 125) | 0.002 | 0.5045 | |
| Complement factor H | P08603 | 26 (6, 49) | 0.0101 | 0.513 | |
| Complement factor I | P05156 | 33 (10, 60) | 0.0052 | 0.513 | |
| Creatine kinase B-type | P12277 | 51 (9, 107) | 0.0153 | 0.513 | |
| Creatine kinase M-type:Creatine kinase B-type heterodimer | P12277.P06732 | 101 (8, 276) | 0.0292 | 0.513 | |
| Cyclin-dependent kinase 2:Cyclin-A2 complex | P24941.P20248 | 92 (21, 205) | 0.0091 | 0.513 | |
| dCTP pyrophosphatase 1 | Q9H773 | 220 (15, 794) | 0.0276 | 0.513 | |
| Down syndrome cell adhesion molecule | O60469 | 32 (2, 71) | 0.0344 | 0.5301 | |
| Dual specificity protein phosphatase 3 | P51452 | 53 (2, 127) | 0.0391 | 0.5301 | |
| Dynein light chain roadblock-type 1 | Q9NP97 | 122 (9, 350) | 0.0288 | 0.513 | |
| Eukaryotic translation initiation factor 4 gamma 2 | P78344 | 155 (5, 519) | 0.0401 | 0.5301 | |
| Eukaryotic translation initiation factor 4H | Q15056 | 251 (1, 1121) | 0.0485 | 0.5301 | |
| Fetuin-B | Q9UGM5 | 56 (6, 130) | 0.0256 | 0.513 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Fibroblast growth factor 1 | P05230 | 74 (4, 193) | 0.0366 | 0.5301 | |
| Glucagon | P01275 | 89 (9, 229) | 0.0265 | 0.513 | |
| Granulocyte colony-stimulating factor | P09919 | 550 (72, 2359) | 0.0077 | 0.513 | |
| Growth factor receptor-bound protein 2 | P62993 | 273 (10, 1164) | 0.0357 | 0.5301 | |
| HCE000483 | HCE000483 | 1 (0, 3) | 0.0339 | 0.5301 | |
| Hemopexin | P02790 | 72 (6, 177) | 0.0285 | 0.513 | |
| Importin subunit alpha-1 | P52292 | 71 (18, 145) | 0.0061 | 0.513 | |
| Inosine-5'-monophosphate dehydrogenase 1 | P20839 | 85 (6, 223) | 0.0306 | 0.513 | |
| Insulin | P01308 | 29 (4, 62) | 0.0272 | 0.513 | |
| Interleukin-1 receptor antagonist protein | P18510 | 258 (24, 927) | 0.0205 | 0.513 | |
| Interleukin-15 receptor subunit alpha | Q13261 | 29 (3, 62) | 0.0299 | 0.513 | |
| Interleukin-6 | P05231 | 502 (58, 2178) | 0.0111 | 0.513 | |
| Kelch-like ECH-associated protein 1 | Q14145 | 59 (22, 108) | 0.0017 | 0.5045 | |
| Lipopolysaccharide-binding protein | P18428 | 64 (28, 108) | 0.0003 | 0.4487 | |
| Low affinity immunoglobulin gamma Fc region receptor II-a | P12318 | 241 (3, 1024) | 0.0448 | 0.5301 | |
| Myeloblastin | P24158 | 130 (3, 410) | 0.0425 | 0.5301 | |
| Myeloperoxidase | P05164 | 160 (14, 490) | 0.0244 | 0.513 | |
| Myoglobin | P02144 | 97 (29, 201) | 0.0031 | 0.5045 | |
| N-acylethanolamine-hydrolyzing acid amidase | Q02083 | 157 (9, 511) | 0.0331 | 0.5301 | |
| Neutrophil gelatinase-associated lipocalin | P80188 | 106 (22, 246) | 0.0085 | 0.513 | |
| Nicotinamide phosphoribosyltransferase | P43490 | 59 (9, 135) | 0.0204 | 0.513 | |
| Nucleoside diphosphate kinase B | P22392 | 201 (6, 757) | 0.0397 | 0.5301 | |
| Phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN | P60484 | 44 (1, 106) | 0.0436 | 0.5301 | |
| Phosphoglycerate kinase 1 | P00558 | 130 (5, 403) | 0.0387 | 0.5301 | |
| Properdin | P27918 | 350 (30, 1445) | 0.0199 | 0.513 | |
| Protein S100-A9 | P06702 | 66 (9, 153) | 0.0217 | 0.513 | |
| RNA-binding protein 39 | Q14498 | 43 (9, 91) | 0.0131 | 0.513 | |
| Scavenger receptor cysteine-rich type 1 protein M130 | Q86VB7 | 41 (4, 93) | 0.0311 | 0.513 | |
| Semaphorin-6B | Q9H3T3 | 143 (6, 454) | 0.0358 | 0.5301 | |
| Serum amyloid A-1 protein | P0DJI8 | 303 (26, 1200) | 0.0225 | 0.513 | |
| Sialic acid-binding Ig-like lectin 14 | Q08ET2 | 85 (23, 179) | 0.0049 | 0.513 | |
| Sialic acid-binding Ig-like lectin 7 | Q9Y286 | 21 (1, 46) | 0.0397 | 0.5301 | |
| Stromelysin-2 | P09238 | 135 (15, 376) | 0.0208 | 0.513 | |
| Thrombopoietin | P40225 | 187 (38, 494) | 0.0071 | 0.513 | |
| Tumor necrosis factor receptor superfamily member 1A | P19438 | 32 (12, 56) | 0.0024 | 0.5045 | |
| Tumor necrosis factor receptor superfamily member 1B | P20333 | 41 (11, 80) | 0.0074 | 0.513 | |
| Tumor necrosis factor receptor superfamily member 8 | P28908 | 24 (4, 48) | 0.0217 | 0.513 | |
| Tyrosine-protein kinase Yes | P07947 | 55 (13, 113) | 0.0092 | 0.513 | |
| Tyrosine-protein phosphatase non-receptor type 2 | P17706 | 21 (3, 43) | 0.0224 | 0.513 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| X-ray repair cross-complementing protein 6 | P12956 | 84 (11, 203) | 0.0205 | 0.513 | |

**Db. Proteins with Lower Relative Abundance in Venous Cord Blood from Infants Born to Mothers with Premature Rupture of Membranes (N=13) versus None (N=13)**

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| AMP Kinase (alpha1beta1gamma1) | Q13131.Q9Y478.P54619 | -25 (-41, -5) | 0.0164 | 0.513 | |
| Angiotensin-converting enzyme 2 | Q9BYF1 | -31 (-52, -1) | 0.0449 | 0.5301 | |
| Ankyrin-2 | Q01484 | -18 (-33, -1) | 0.0402 | 0.5301 | |
| Annexin A6 | P08133 | -45 (-65, -14) | 0.0127 | 0.513 | |
| Bone morphogenetic protein receptor type-1A | P36894 | -19 (-33, -3) | 0.0272 | 0.513 | |
| C-C motif chemokine 28 | Q9NRJ3 | -44 (-60, -20) | 0.0023 | 0.5045 | |
| Carboxypeptidase E | P16870 | -28 (-47, -1) | 0.0437 | 0.5301 | |
| Catalase | P04040 | -40 (-60, -10) | 0.0148 | 0.513 | |
| Chorionic somatomammotropin hormone | P0DML2.P0DML3 | -63 (-80, -32) | 0.0029 | 0.5045 | |
| Complement component C7 | P10643 | -27 (-42, -7) | 0.0116 | 0.513 | |
| Corticosteroid-binding globulin | P08185 | -25 (-41, -5) | 0.0165 | 0.513 | |
| Cystatin-S | P01036 | -17 (-30, -2) | 0.0319 | 0.5192 | |
| Diablo homolog, mitochondrial | Q9NR28 | -15 (-27, -1) | 0.0441 | 0.5301 | |
| Eukaryotic translation initiation factor 5 | P55010 | -28 (-46, -4) | 0.0249 | 0.513 | |
| Fibroblast growth factor 10 | O15520 | -31 (-48, -9) | 0.0121 | 0.513 | |
| Glial fibrillary acidic protein | P14136 | -10 (-19, -1) | 0.0286 | 0.513 | |
| Growth/differentiation factor 8 | O14793 | -33 (-51, -9) | 0.0131 | 0.513 | |
| GTP-binding nuclear protein Ran | P62826 | -72 (-91, -9) | 0.0352 | 0.5301 | |
| Immunoglobulin M | P01871 | -36 (-54, -11) | 0.0107 | 0.513 | |
| Killer cell immunoglobulin-like receptor 3DL2 | P43630 | -18 (-33, -1) | 0.0439 | 0.5301 | |
| Mesothelin | Q13421 | -32 (-54, -1) | 0.0473 | 0.5301 | |
| Metalloproteinase inhibitor 2 | P16035 | -20 (-34, -3) | 0.0234 | 0.513 | |
| Neutral ceramidase | Q9NR71 | -23 (-37, -5) | 0.0134 | 0.513 | |
| NKG2-D type II integral membrane protein | P26718 | -19 (-33, -1) | 0.0452 | 0.5301 | |
| Noggin | Q13253 | -43 (-64, -10) | 0.0189 | 0.513 | |
| Parathyroid hormone | P01270 | -39 (-60, -8) | 0.0226 | 0.513 | |
| Phosphoglucomutase-1 | P36871 | -15 (-26, -2) | 0.0267 | 0.513 | |
| Platelet-activating factor acetylhydrolase IB subunit beta | P68402 | -28 (-41, -14) | 0.0013 | 0.5045 | |
| Semaphorin-3A | Q14563 | -34 (-54, -5) | 0.0272 | 0.513 | |
| Serine/threonine-protein kinase PAK 6 | Q9NQU5 | -40 (-64, -1) | 0.045 | 0.5301 | |
| Serotransferrin | P02787 | -16 (-28, -3) | 0.024 | 0.513 | |
| Somatotropin | P01241 | -20 (-35, -3) | 0.0245 | 0.513 | |
| SPARC | P09486 | -35 (-53, -10) | 0.0107 | 0.513 | |
| Vacuolar protein sorting-associated protein VTA1 homolog | Q9NP79 | -36 (-56, -7) | 0.0194 | 0.513 | |

| Ea. Proteins with Higher Relative Abundance in Venous Cord Blood from Infants born to Mothers with Pre-eclampsia (N=8) verses None (N=18) | | | | | |
|---|---|---|---|---|---|
| **Target Full Name** | **UniProt** | **% Difference (CI)** | **P-value** | **Adjusted P-value** | ***** |
| 3-hydroxyisobutyrate dehydrogenase, mitochondrial | P31937 | 15 (1, 31) | 0.0324 | 0.7297 | |
| Adenylate kinase isoenzyme 1 | P00568 | 57 (4, 136) | 0.0341 | 0.7344 | |
| Advanced glycosylation end product-specific receptor, soluble | Q15109 | 56 (2, 138) | 0.0421 | 0.7508 | |
| Alpha-soluble NSF attachment protein | P54920 | 64 (4, 157) | 0.0346 | 0.7344 | |
| Angiopoietin-4 | Q9Y264 | 24 (0, 54) | 0.0482 | 0.7661 | |
| Bone morphogenetic protein receptor type-1A | P36894 | 24 (4, 47) | 0.0194 | 0.6403 | |
| C-C motif chemokine 16 | O15467 | 234 (59, 596) | 0.003 | 0.3308 | |
| C-C motif chemokine 28 | Q9NRJ3 | 74 (27, 138) | 0.0011 | 0.2358 | |
| Cadherin-3 | P22223 | 22 (1, 47) | 0.0362 | 0.7449 | |
| Catalase | P04040 | 77 (18, 164) | 0.0088 | 0.4827 | |
| Cathepsin F | Q9UBX1 | 20 (0, 43) | 0.0489 | 0.7661 | |
| CD5 antigen-like | O43866 | 37 (1, 85) | 0.0454 | 0.7661 | |
| Complement component C7 | P10643 | 55 (23, 96) | 0.0011 | 0.2358 | |
| Corticosteroid-binding globulin | P08185 | 31 (1, 71) | 0.0424 | 0.7508 | |
| Dual specificity mitogen-activated protein kinase kinase 4 | P45985 | 42 (5, 95) | 0.0265 | 0.6428 | |
| Endothelin-converting enzyme 1 | P42892 | 21 (1, 44) | 0.0374 | 0.7456 | |
| Eukaryotic translation initiation factor 5 | P55010 | 43 (1, 101) | 0.0421 | 0.7508 | |
| GDNF family receptor alpha-2 | O00451 | 13 (1, 26) | 0.0421 | 0.7508 | |
| Growth/differentiation factor 11/8 | O95390.O14793 | 62 (11, 138) | 0.0168 | 0.5995 | |
| Growth/differentiation factor 8 | O14793 | 52 (1, 128) | 0.0443 | 0.7585 | |
| Immunoglobulin M | P01871 | 67 (21, 131) | 0.0044 | 0.3308 | |
| Matrix extracellular phosphoglycoprotein | Q9NQ76 | 30 (4, 62) | 0.0253 | 0.6428 | |
| Metalloproteinase inhibitor 2 | P16035 | 26 (8, 46) | 0.0044 | 0.3308 | |
| Neural cell adhesion molecule 1, 120 kDa isoform | P13591 | 39 (3, 87) | 0.0327 | 0.7297 | |
| Parathyroid hormone | P01270 | 75 (1, 203) | 0.0484 | 0.7661 | |
| Plasma kallikrein | P03952 | 16 (1, 35) | 0.0354 | 0.7397 | |
| Platelet-activating factor acetylhydrolase IB subunit beta | P68402 | 40 (13, 74) | 0.0044 | 0.3308 | |
| Proliferation-associated protein 2G4 | Q9UQ80 | 73 (10, 169) | 0.019 | 0.6403 | |
| Protein 4.1 | P11171 | 77 (0, 212) | 0.0488 | 0.7661 | |
| Sex hormone-binding globulin | P04278 | 54 (6, 123) | 0.0268 | 0.6428 | |
| Stromal cell-derived factor 1 | P48061 | 41 (14, 75) | 0.0041 | 0.3308 | |
| Thioredoxin domain-containing protein 12 | O95881 | 21 (1, 47) | 0.0425 | 0.7508 | |
| Tissue-type plasminogen activator | P00750 | 43 (1, 103) | 0.0469 | 0.7661 | |
| Ubiquitin+1, truncated mutation for UbB | P62979 | 61 (6, 145) | 0.0268 | 0.6428 | |
| Vacuolar protein sorting-associated protein VTA1 homolog | Q9NP79 | 60 (14, 123) | 0.0085 | 0.4827 | |

| Eb. Proteins with Lower Relative Abundance in Venous Cord Blood from Infants born to Mothers with Pre-eclampsia (N=8) verses None (N=18) | | | | | |
|---|---|---|---|---|---|
| **Target Full Name** | **UniProt** | **% Difference (CI)** | **P-value** | **Adjusted P-value** | ***** |
| 2'-5'-oligoadenylate synthase 1 | P00973 | -20 (-33, -3) | 0.0222 | 0.6428 | |
| Alpha-1-antichymotrypsin | P01011 | -34 (-53, -9) | 0.0158 | 0.5995 | |
| C-C motif chemokine 23 | P55773 | -47 (-63, -25) | 0.0013 | 0.2358 | |
| C-C motif chemokine 7 | P80098 | -31 (-49, -5) | 0.0235 | 0.6428 | |
| C5a anaphylatoxin | P01031 | -37 (-58, -7) | 0.0241 | 0.6428 | |
| CD177 antigen | Q8N6Q3 | -51 (-74, -4) | 0.0379 | 0.7456 | |
| Chitinase-3-like protein 1 | P36222 | -53 (-75, -12) | 0.0218 | 0.6428 | |
| Ck-beta-8-1 | P55773 | -51 (-76, -1) | 0.046 | 0.7661 | |
| COMM domain-containing protein 7 | Q86VX2 | -22 (-36, -5) | 0.0136 | 0.5842 | |
| Complement C4 | P0C0L4..P0C0L5 | -27 (-46, -2) | 0.0373 | 0.7456 | |
| Complement C5 | P01031 | -27 (-42, -7) | 0.0119 | 0.5842 | |
| Complement C5b-C6 complex | P01031.P13671 | -25 (-40, -6) | 0.0138 | 0.5842 | |
| Complement factor B | P00751 | -35 (-51, -13) | 0.0052 | 0.343 | |
| Complement factor H | P08603 | -18 (-33, -1) | 0.0428 | 0.7508 | |
| Complement factor I | P05156 | -19 (-32, -4) | 0.0164 | 0.5995 | |
| Creatine kinase B-type | P12277 | -39 (-53, -21) | 0.0007 | 0.2358 | |
| Cyclin-dependent kinase 2:Cyclin-A2 complex | P24941.P20248 | -38 (-57, -9) | 0.0165 | 0.5995 | |
| Dynein light chain roadblock-type 1 | Q9NP97 | -53 (-76, -7) | 0.0307 | 0.7107 | |
| E-selectin | P16581 | -44 (-67, -5) | 0.0334 | 0.7334 | |
| Fibroblast growth factor 1 | P05230 | -47 (-67, -14) | 0.0126 | 0.5842 | |
| Granulocyte colony-stimulating factor | P09919 | -79 (-94, -20) | 0.024 | 0.6428 | |
| Hepcidin | P81172 | -68 (-87, -22) | 0.015 | 0.5973 | |
| Importin subunit alpha-1 | P52292 | -40 (-56, -18) | 0.0028 | 0.3308 | |
| Inosine-5'-monophosphate dehydrogenase 1 | P20839 | -53 (-74, -16) | 0.0134 | 0.5842 | |
| Insulin-like growth factor-binding protein 4 | P22692 | -29 (-47, -5) | 0.023 | 0.6428 | |
| Interleukin-1 receptor antagonist protein | P18510 | -79 (-90, -55) | 0.0004 | 0.2358 | |
| Interleukin-6 | P05231 | -85 (-94, -61) | 0.0006 | 0.2358 | |
| Interleukin-8 | P10145 | -59 (-80, -14) | 0.0194 | 0.6403 | |
| Kelch-like ECH-associated protein 1 | Q14145 | -28 (-46, -4) | 0.0262 | 0.6428 | |
| Lactotransferrin | P02788 | -55 (-77, -11) | 0.0239 | 0.6428 | |
| Lipopolysaccharide-binding protein | P18428 | -38 (-53, -19) | 0.0015 | 0.2358 | |
| Macrophage metalloelastase | P39900 | -51 (-73, -10) | 0.0222 | 0.6428 | |
| Macrophage-capping protein | P40121 | -40 (-60, -12) | 0.0123 | 0.5842 | |
| Myeloblastin | P24158 | -64 (-81, -29) | 0.0048 | 0.331 | |
| Myeloperoxidase | P05164 | -60 (-80, -18) | 0.0145 | 0.5973 | |
| Myoglobin | P02144 | -47 (-64, -21) | 0.0035 | 0.3308 | |
| Neurexin-3-beta | Q9HDB5 | -29 (-44, -10) | 0.006 | 0.3575 | |
| Neutrophil collagenase | P22894 | -38 (-59, -6) | 0.0258 | 0.6428 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Neutrophil gelatinase-associated lipocalin | P80188 | -57 (-73, -30) | 0.0016 | 0.2358 | |
| Nicotinamide phosphoribosyltransferase | P43490 | -33 (-55, 0) | 0.0494 | 0.7661 | |
| Peptidoglycan recognition protein 1 | O75594 | -54 (-76, -10) | 0.0261 | 0.6428 | |
| Protein jagged-1 | P78504 | -18 (-32, -1) | 0.0443 | 0.7585 | |
| Protein S100-A9 | P06702 | -48 (-66, -21) | 0.0045 | 0.3308 | |
| Resistin | Q9HD89 | -54 (-72, -25) | 0.0032 | 0.3308 | |
| Serum amyloid A-1 protein | P0DJI8 | -65 (-86, -10) | 0.0308 | 0.7107 | |
| Sialic acid-binding Ig-like lectin 14 | Q08ET2 | -49 (-68, -20) | 0.0059 | 0.3575 | |
| Teratocarcinoma-derived growth factor 1 | P13385 | -60 (-83, -4) | 0.0405 | 0.7508 | |
| Tumor necrosis factor ligand superfamily member 13B | Q9Y275 | -25 (-42, -1) | 0.0425 | 0.7508 | |
| Tumor necrosis factor receptor superfamily member 1A | P19438 | -25 (-36, -12) | 0.0013 | 0.2358 | |
| Tumor necrosis factor receptor superfamily member 1B | P20333 | -29 (-46, -8) | 0.013 | 0.5842 | |

**Fa. Proteins with Higher Relative Abundance in Venous Cord Blood in Infants requiring Intubation within 6 hours following Delivery (N=12) verses Non-invasive support (N=14)**

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| 2'-5'-oligoadenylate synthase 1 | P00973 | 28 (2, 60) | 0.0327 | 0.6375 | |
| 3-hydroxy-3-methylglutaryl-coenzyme A reductase | P04035 | 24 (3, 49) | 0.0263 | 0.6375 | |
| Acid sphingomyelinase-like phosphodiesterase 3a | Q92484 | 48 (4, 113) | 0.0308 | 0.6375 | |
| Aurora kinase A | O14965 | 19 (3, 38) | 0.0225 | 0.6375 | |
| Beta-2-microglobulin | P61769 | 18 (1, 39) | 0.0452 | 0.6375 | |
| C-C motif chemokine 2 | P13500 | 80 (1, 223) | 0.0484 | 0.6375 | |
| CD27 antigen | P26842 | 35 (0, 82) | 0.0481 | 0.6375 | |
| Cyclin-dependent kinase 5:Cyclin-dependent kinase 5 activator 1 complex | Q00535.Q15078 | 18 (1, 39) | 0.0443 | 0.6375 | |
| Dual specificity tyrosine-phosphorylation-regulated kinase 3 | O43781 | 22 (3, 46) | 0.0268 | 0.6375 | |
| Fibroblast growth factor receptor 3 | P22607 | 29 (1, 64) | 0.0379 | 0.6375 | |
| Fibronectin Fragment 3 | P02751 | 31 (6, 62) | 0.0152 | 0.6375 | |
| Fms-related tyrosine kinase 3 ligand | P49771 | 36 (11, 66) | 0.0049 | 0.6375 | |
| Fructose-bisphosphate aldolase A | P04075 | 14 (1, 29) | 0.0436 | 0.6375 | |
| G2/mitotic-specific cyclin-B1 | P14635 | 39 (2, 89) | 0.039 | 0.6375 | |
| Heterogeneous nuclear ribonucleoprotein K | P61978 | 22 (0, 49) | 0.05 | 0.6375 | |
| Histidine-rich glycoprotein | P04196 | 45 (2, 107) | 0.0404 | 0.6375 | |
| Hypoxia-inducible factor 1-alpha | Q16665 | 22 (0, 49) | 0.0474 | 0.6375 | |
| Immunoglobulin alpha Fc receptor | P24071 | 24 (4, 46) | 0.0165 | 0.6375 | |
| Interleukin-1 beta | P01584 | 34 (1, 78) | 0.0434 | 0.6375 | |
| Interleukin-36 beta | Q9NZH7 | 13 (1, 27) | 0.0397 | 0.6375 | |
| Interleukin-8 | P10145 | 199 (17, 662) | 0.0254 | 0.6375 | |
| Neutrophil elastase | P08246 | 36 (6, 75) | 0.0188 | 0.6375 | |
| Roundabout homolog 3 | Q96MS0 | 21 (2, 45) | 0.0328 | 0.6375 | |
| Serine/threonine-protein kinase Chk1 | O14757 | 51 (14, 99) | 0.0059 | 0.6375 | |
| Tumor necrosis factor receptor superfamily member 10B | O14763 | 38 (4, 82) | 0.0297 | 0.6375 | |
| Ubiquitin-conjugating enzyme E2 G2 | P60604 | 23 (2, 47) | 0.0304 | 0.6375 | |

**Fb. Proteins with Lower Relative Abundance in Venous Cord Blood in Infants requiring Intubation within 6 hours following Delivery (N=12) verses Non-invasive support (N=14)**

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| 40S ribosomal protein SA | P08865 | -20 (-34, -4) | 0.0167 | 0.6375 | |
| AMP Kinase (alpha2beta2gamma1) | P54646.O43741.P54619 | -41 (-64, -2) | 0.042 | 0.6375 | |
| Angiogenin | P03950 | -22 (-38, -1) | 0.0385 | 0.6375 | |
| Arylsulfatase A | P15289 | -29 (-47, -5) | 0.0248 | 0.6375 | |
| Bone morphogenetic protein 7 | P18075 | -43 (-67, -1) | 0.0459 | 0.6375 | |
| C-C motif chemokine 14 | Q16627 | -29 (-48, -3) | 0.0329 | 0.6375 | |
| C-C motif chemokine 17 | Q92583 | -42 (-63, -7) | 0.024 | 0.6375 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| C-C motif chemokine 18 | P55774 | -24 (-38, -6) | 0.0134 | 0.6375 | |
| C3a anaphylatoxin des Arginine | P01024 | -46 (-69, -7) | 0.027 | 0.6375 | |
| Calcium/calmodulin-dependent protein kinase type II subunit alpha | Q9UQM7 | -28 (-46, -5) | 0.0255 | 0.6375 | |
| Calpastatin | P20810 | -22 (-37, -3) | 0.0234 | 0.6375 | |
| Cardiotrophin-1 | Q16619 | -35 (-56, -3) | 0.0331 | 0.6375 | |
| Caspase-3 | P42574 | -68 (-89, -7) | 0.0372 | 0.6375 | |
| Cell adhesion molecule 3 | Q8N126 | -39 (-60, -6) | 0.0259 | 0.6375 | |
| cGMP-specific 3',5'-cyclic phosphodiesterase | O76074 | -43 (-65, -6) | 0.0283 | 0.6375 | |
| Complement C3 | P01024 | -52 (-77, -1) | 0.0483 | 0.6375 | |
| Dickkopf-related protein 1 | O94907 | -30 (-50, -2) | 0.0403 | 0.6375 | |
| Eotaxin | P51671 | -53 (-73, -18) | 0.0108 | 0.6375 | |
| Ephrin type-A receptor 10 | Q5JZY3 | -22 (-35, -5) | 0.0125 | 0.6375 | |
| Glutamate carboxypeptidase 2 | Q04609 | -35 (-57, -3) | 0.0381 | 0.6375 | |
| Glutathione S-transferase P | P09211 | -50 (-73, -7) | 0.0308 | 0.6375 | |
| Glycerol-3-phosphate dehydrogenase [NAD(+)], cytoplasmic | P21695 | -26 (-38, -12) | 0.0018 | 0.6375 | |
| Hsp90 co-chaperone Cdc37 | Q16543 | -25 (-43, -1) | 0.0426 | 0.6375 | |
| Iduronate 2-sulfatase | P22304 | -48 (-70, -9) | 0.0232 | 0.6375 | |
| Insulin-degrading enzyme | P14735 | -46 (-71, -1) | 0.0483 | 0.6375 | |
| Interleukin-1 receptor type 1 | P14778 | -66 (-88, -10) | 0.0321 | 0.6375 | |
| Interleukin-9 | P15248 | -22 (-35, -6) | 0.0115 | 0.6375 | |
| Low molecular weight phosphotyrosine protein phosphatase | P24666 | -53 (-74, -16) | 0.0134 | 0.6375 | |
| Lymphotoxin alpha1:beta2 | P01374..Q06643 | -50 (-74, -1) | 0.0468 | 0.6375 | |
| Nascent polypeptide-associated complex subunit alpha | Q13765 | -36 (-57, -4) | 0.031 | 0.6375 | |
| Neurexin-1-beta | P58400 | -59 (-79, -22) | 0.0092 | 0.6375 | |
| Neurogenic locus notch homolog protein 2 | Q04721 | -29 (-48, -5) | 0.0255 | 0.6375 | |
| NSFL1 cofactor p47 | Q9UNZ2 | -59 (-80, -14) | 0.021 | 0.6375 | |
| Peptidyl-prolyl cis-trans isomerase E | Q9UNP9 | -26 (-44, -3) | 0.0338 | 0.6375 | |
| Peptidyl-prolyl cis-trans isomerase F, mitochondrial | P30405 | -31 (-46, -11) | 0.006 | 0.6375 | |
| PIK3CA/PIK3R1 | P42336.P27986 | -43 (-66, -5) | 0.0332 | 0.6375 | |
| Platelet-derived growth factor receptor beta | P09619 | -56 (-80, -5) | 0.0382 | 0.6375 | |
| Platelet-derived growth factor subunit A | P04085 | -47 (-68, -10) | 0.0195 | 0.6375 | |
| Prefoldin subunit 5 | Q99471 | -37 (-60, -1) | 0.0471 | 0.6375 | |
| Prolactin | P01236 | -44 (-66, -7) | 0.0279 | 0.6375 | |
| Protein kinase C alpha type | P17252 | -50 (-74, -5) | 0.0366 | 0.6375 | |
| Protein lin-7 homolog B | Q9HAP6 | -23 (-38, -5) | 0.0197 | 0.6375 | |
| Prothrombin | P00734 | -14 (-26, 0) | 0.0486 | 0.6375 | |
| Retinoic acid receptor responder protein 2 | Q99969 | -21 (-38, 0) | 0.0486 | 0.6375 | |
| S-formylglutathione hydrolase | P10768 | -60 (-81, -16) | 0.0184 | 0.6375 | |
| Small glutamine-rich tetratricopeptide repeat-containing protein alpha | O43765 | -63 (-85, -7) | 0.0361 | 0.6375 | |
| T-lymphocyte activation antigen CD86 | P42081 | -39 (-58, -10) | 0.0133 | 0.6375 | |

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Tumor necrosis factor ligand superfamily member 8 | P32971 | -19 (-32, -3) | 0.0274 | 0.6375 | |
| Tyrosine-protein phosphatase non-receptor type substrate 1 | P78324 | -47 (-70, -7) | 0.0299 | 0.6375 | |
| Ubiquitin-fold modifier 1 | P61960 | -58 (-80, -9) | 0.0298 | 0.6375 | |
| Ubiquitin-fold modifier-conjugating enzyme 1 | Q9Y3C8 | -43 (-67, -1) | 0.0466 | 0.6375 | |
| Vascular endothelial growth factor A | P15692 | -23 (-36, -6) | 0.0112 | 0.6375 | |

**Ga. Proteins with Higher Relative Abundance in Venous Cord Blood from Male Infants (N=16) verses Female Infants (N=10)**

| Target Full Name | UniProt | % Difference (CI) | P-value | Adjusted P-value | * |
|---|---|---|---|---|---|
| Alpha-2-macroglobulin | P01023 | 39 (5, 84) | 0.0239 | 0.7381 | |
| Brevican core protein | Q96GW7 | 78 (10, 187) | 0.0206 | 0.7239 | |
| C-C motif chemokine 16 | O15467 | 148 (14, 439) | 0.0243 | 0.7381 | |
| C-C motif chemokine 17 | Q92583 | 66 (8, 155) | 0.0223 | 0.7342 | |
| Calpastatin | P20810 | 40 (18, 67) | 0.0005 | 0.2255 | |
| Carbonic anhydrase 6 | P23280 | 87 (1, 246) | 0.0457 | 0.9401 | |
| Complement component C7 | P10643 | 33 (7, 65) | 0.0124 | 0.6459 | |
| Eotaxin | P51671 | 95 (17, 223) | 0.0124 | 0.6459 | |
| Extracellular superoxide dismutase [Cu-Zn] | P08294 | 47 (2, 113) | 0.0407 | 0.9238 | |
| Glycerol-3-phosphate dehydrogenase [NAD(+)], cytoplasmic | P21695 | 27 (5, 52) | 0.0157 | 0.6459 | |
| Glypican-2 | Q8N158 | 20 (1, 42) | 0.045 | 0.9401 | |
| Homeodomain-interacting protein kinase 3 | Q9H422 | 57 (11, 122) | 0.0136 | 0.6459 | |
| Intercellular adhesion molecule 5 | Q9UMF0 | 46 (16, 85) | 0.0026 | 0.4355 | |
| Interleukin-9 | P15248 | 27 (6, 51) | 0.0116 | 0.6459 | |
| Leptin | P41159 | 56 (5, 131) | 0.0303 | 0.8669 | |
| Mast/stem cell growth factor receptor Kit | P10721 | 21 (1, 46) | 0.0399 | 0.9238 | |
| Neural cell adhesion molecule 1, 120 kDa isoform | P13591 | 36 (1, 82) | 0.0404 | 0.9238 | |
| Neural cell adhesion molecule L1 | P32004 | 39 (5, 83) | 0.0233 | 0.7381 | |
| Platelet glycoprotein 4 | P16671 | 100 (21, 232) | 0.0096 | 0.6459 | |
| Platelet glycoprotein Ib alpha chain | P07359 | 21 (1, 44) | 0.046 | 0.9401 | |
| Platelet-derived growth factor C | Q9NRA1 | 21 (4, 43) | 0.0214 | 0.7239 | |
| Prolactin | P01236 | 127 (42, 263) | 0.0018 | 0.4001 | |
| Protein-glutamine gamma-glutamyltransferase E | Q08188 | 66 (5, 162) | 0.0316 | 0.8669 | |
| Sex hormone-binding globulin | P04278 | 46 (8, 97) | 0.0153 | 0.6459 | |
| Somatotropin | P01241 | 26 (5, 51) | 0.0157 | 0.6459 | |
| SPARC-like protein 1 | Q14515 | 48 (10, 100) | 0.0116 | 0.6459 | |
| Stromal cell-derived factor 1 | P48061 | 33 (7, 65) | 0.0122 | 0.6459 | |
| Transmembrane glycoprotein NMB | Q14956 | 49 (9, 106) | 0.0154 | 0.6459 | |

| Gb. Proteins with Lower Relative Abundance in Venous Cord Blood from Male Infants (N=16) verses Female Infants (N=10) | | | | | |
|---|---|---|---|---|---|
| **Target Full Name** | **UniProt** | **% Difference (CI)** | **P-value** | **Adjusted P-value** | ***** |
| Adhesion G-protein coupled receptor G5 | Q8IZF4 | -23 (-37, -5) | 0.0187 | 0.7239 | |
| Apolipoprotein E | P02649 | -49 (-69, -16) | 0.0096 | 0.6459 | |
| Apolipoprotein E (isoform E3) | P02649 | -32 (-50, -6) | 0.0199 | 0.7239 | |
| Apolipoprotein E (isoform E4) | P02649 | -25 (-43, -2) | 0.0344 | 0.9056 | |
| Beta-2-microglobulin | P61769 | -22 (-31, -11) | 0.0007 | 0.2255 | |
| C-C motif chemokine 1 | P22362 | -18 (-28, -8) | 0.0021 | 0.4001 | |
| C-C motif chemokine 23 | P55773 | -38 (-58, -8) | 0.0204 | 0.7239 | |
| C-C motif chemokine 3-like 1 | P16619 | -17 (-30, -1) | 0.0337 | 0.9056 | |
| CCAAT/enhancer-binding protein beta | P17676 | -38 (-61, -3) | 0.0387 | 0.9238 | |
| Chromobox protein homolog 5 | P45973 | -15 (-27, 0) | 0.0485 | 0.9685 | |
| Complement component C8 | P07357.P07358.P07360 | -22 (-36, -5) | 0.0147 | 0.6459 | |
| Cyclin-dependent kinase 5:Cyclin-dependent kinase 5 activator 1 complex | Q00535.Q15078 | -20 (-30, -8) | 0.0032 | 0.4729 | |
| Cyclin-dependent kinase 8:Cyclin-C complex | P49336.P24863 | -24 (-38, -5) | 0.0157 | 0.6459 | |
| DNA repair protein RAD51 homolog 1 | Q06609 | -18 (-29, -6) | 0.0058 | 0.6459 | |
| Elafin | P19957 | -45 (-64, -16) | 0.0077 | 0.6459 | |
| Endoplasmic reticulum resident protein 29 | P30040 | -24 (-40, -4) | 0.0247 | 0.7381 | |
| Follicle stimulating hormone | P01215...P01225 | -74 (-86, -51) | 0.0006 | 0.2255 | |
| Glycylpeptide N-tetradecanoyltransferase 1 | P30419 | -30 (-49, -3) | 0.0363 | 0.9238 | |
| Hexokinase-1 | P19367 | -22 (-38, -1) | 0.0393 | 0.9238 | |
| High mobility group protein B1 | P09429 | -41 (-63, -5) | 0.0307 | 0.8669 | |
| Histone deacetylase 8 | Q9BY41 | -23 (-38, -3) | 0.0313 | 0.8669 | |
| Histone H2A.z | P0C0S5 | -61 (-85, -2) | 0.0459 | 0.9401 | |
| Interleukin-17F | Q96PD4 | -16 (-27, -5) | 0.0101 | 0.6459 | |
| Interleukin-34 | Q6ZMJ4 | -12 (-20, -3) | 0.0134 | 0.6459 | |
| Interleukin-37 | Q9NZH6 | -22 (-34, -7) | 0.0065 | 0.6459 | |
| Kallikrein-12 | Q9UKR0 | -34 (-52, -9) | 0.013 | 0.6459 | |
| Non-histone chromosomal protein HMG-14 | P05114 | -44 (-67, -3) | 0.0404 | 0.9238 | |
| Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit gamma isoform | P48736 | -23 (-34, -10) | 0.002 | 0.4001 | |
| Proprotein convertase subtilisin/kexin type 9 | Q8NBP7 | -37 (-50, -19) | 0.0007 | 0.2255 | |
| Protein E7_HPV18 | P06788 | -20 (-34, -3) | 0.0211 | 0.7239 | |
| Stabilin-2 | Q8WWQ8 | -19 (-34, -1) | 0.046 | 0.9401 | |
| Tropomyosin beta chain | P07951 | -16 (-30, 0) | 0.0464 | 0.9401 | |
| Tumor necrosis factor ligand superfamily member 11 | O14788 | -16 (-27, -4) | 0.0116 | 0.6459 | |
| Tumor necrosis factor receptor superfamily member 11B | O00300 | -22 (-38, -1) | 0.0387 | 0.9238 | |
| Tumor necrosis factor receptor superfamily member 1A | P19438 | -19 (-33, -3) | 0.0207 | 0.7239 | |
| Tyrosine-protein kinase ZAP-70 | P43403 | -27 (-41, -9) | 0.0071 | 0.6459 | |
| Ubiquitin-conjugating enzyme E2 G2 | P60604 | -17 (-31, -1) | 0.0436 | 0.9401 | |
| Vitamin K-dependent protein S | P07225 | -17 (-27, -5) | 0.0094 | 0.6459 | |

**Supplemental Table 8**. The top 25 pathways that were overrepresented as determined by the Reactome are presented for **[A]** the 142 proteins that were lower in the neonate at 48-72 hours of life compared to the umbilical cord and **[B]** the 126 proteins that were higher. For further information please see references [21-22, 24-25]. *FDR* False Discovery Rate

| **A. Pathways Overrepresented for the Proteins with Lower Relative Abundance (N=142)** | | | **B. Pathways Overrepresented for the Proteins with Higher Relative Abundance (N=126)** | | |
|---|---|---|---|---|---|
| **Pathway Name** | **p-value** | **FDR** | **Pathway Name** | **p-value** | **FDR** |
| Cytokine Signaling in Immune System | 7.61E-14 | 6.38E-11 | Immune System | 1.20E-10 | 9.37E-08 |
| Signaling by Interleukins | 1.12E-13 | 6.38E-11 | Innate Immune System | 7.62E-10 | 2.96E-07 |
| Immune System | 4.55E-13 | 1.74E-10 | Complement cascade | 1.73E-09 | 3.61E-07 |
| Signaling by Receptor Tyrosine Kinases | 1.88E-11 | 5.37E-09 | Extracellular matrix organization | 1.86E-09 | 3.61E-07 |
| PI3K/AKT Signaling in Cancer | 8.54E-10 | 1.96E-07 | Platelet degranulation | 3.38E-08 | 5.24E-06 |
| Negative regulation of the PI3K/AKT network | 2.19E-09 | 3.67E-07 | Response to elevated platelet cytosolic Ca2+ | 5.11E-08 | 6.59E-06 |
| Diseases of signal transduction by growth factor receptors and second messengers | 2.25E-09 | 3.67E-07 | Chemokine receptors bind chemokines | 3.67E-07 | 3.87E-05 |
| Interleukin-4 and Interleukin-13 signaling | 4.98E-09 | 7.12E-07 | Formation of Fibrin Clot (Clotting Cascade) | 3.99E-07 | 3.87E-05 |
| Intracellular signaling by second messengers | 1.44E-08 | 1.83E-06 | Regulation of Complement cascade | 5.10E-07 | 4.38E-05 |
| MAPKI/MAPK3 signaling | 2.76E-08 | 3.14E-06 | Signaling by Interleukins | 1.19E-06 | 9.15E-05 |
| Negative regulation of FGFR1 signaling | 3.38E-08 | 3.32E-06 | Activation of C3 and C5 | 1.51E-06 | 1.06E-04 |
| Netrin-1 signaling | 3.49E-08 | 3.32E-06 | Terminal pathway of complement | 2.56E-06 | 1.64E-04 |
| Downregulation of ERBB2:ERBB3 signaling | 4.84E-08 | 4.25E-06 | Peptide ligand-binding receptors | 3.25E-06 | 1.91E-04 |
| PIP3 activates AKT signaling | 5.25E-08 | 4.25E-06 | Neutrophil degranulation | 9.55E-06 | 5.25E-04 |
| Signaling by FGFR1 | 6.67E-08 | 5.07E-06 | Degradation of the extracellular matrix | 3.66E-05 | 2.00E-03 |
| Intrinsic Pathway for Apoptosis | 7.78E-08 | 5.52E-06 | Platelet activation, signaling and aggregation | 5.64E-05 | 3.00E-03 |
| Signaling by FGFR1 in disease | 1.12E-07 | 7.49E-06 | Integrin cell surface interactions | 6.05E-05 | 3.00E-03 |
| Innate Immune System | 1.21E-07 | 7.62E-06 | Regulation of IGF transport and uptake by IGFBPs | 9.77E-05 | 4.00E-03 |
| Axon guidance | 1.38E-07 | 8.25E-06 | Signal transduction by L1 | 1.08E-04 | 4.00E-03 |
| Regulation of IGF transport and uptake by IGFBPs | 1.53E-07 | 8.70E-06 | Cytokine signaling in Immune system | 1.13E-04 | 4.00E-03 |
| MAPK family signaling cascades | 1.81E-07 | 9.60E-06 | Common Pathway of Fibrin Clot Formation | 1.29E-04 | 5.00E-03 |
| Insulin receptor signalling cascade | 1.85E-07 | 9.60E-06 | Listeria monocytogenes entry into host cells | 1.53E-04 | 5.00E-03 |
| Phospholipase C-mediated cascade: FGF1 | 2.09E-07 | 1.02E-05 | Intrinsic Pathway of Fibrin Clot Formation | 1.53E-04 | 5.00E-03 |
| Nervous system development | 3.20E-07 | 1.51E-05 | Hemostasis | 2.21E-04 | 7.00E-03 |
| FGF1 mutant receptor activation | 4.08E-07 | 1.84E-05 | InIA-mediated entry of Listeria monocytogenes into host cells | 2.22E-04 | 7.00E-03 |