

Supplementary Table 1. Human *TRPM3* transcript variants and protein isoforms.

| Variant (ID number)       | NT count | Isoform (ID number) | AA count | Ex1 | Ex2 | Ex3 | Ex4 | Ex5 | Ex6 | Ex7 | Ex8 | Ex9 | IVS9   | Ex10 | Ex11 | Ex11a | Ex12 | Ex13 | Ex14 | Ex15 | Ex16 | Ex17 | Ex18 | Ex19 | Ex20 | Ex21 | Ex22 | Ex23 | Ex24 | Ex25 | Ex26 | Ex27 | Ex28 | Ex29  | Ex30  |
|---------------------------|----------|---------------------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| A. RefSeq (GRCh38.p13)    |          |                     |          |     |     |     |     |     |     |     |     |     |        |      |      |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 1 (NM_020952.4)           | 5940     | a (NP_066003)       | 1554     |     |     |     |     | 1   | 73  | 114 | 172 |     | MIR204 | 230  | 271  |       | 296  | 329  | 374  | 391  |      | 438  | 448  | 545  | 621  | 677  | 724  | 767  | 851  | 910  | 960  | 1027 | 1071 | 1554* |       |
| 2 (NM_024971.5)           | 5976     | b (NP_079247)       | 1566     |     |     |     |     | 1   | 73  | 114 | 172 |     | MIR204 | 230  | 271  |       | 296  | 329  | 374  | 391  | 403  | 450  | 460  | 557  | 633  | 689  | 736  | 779  | 863  | 922  | 972  | 1039 | 1083 | 1566* |       |
| 3 (NM_206944.3)           | 5910     | d (NP_996827)       | 1544     |     |     |     |     | 1   | 73  | 114 | 172 |     | MIR204 | 230  | 271  |       | 296  | 329  | 374  | 391  |      | 438  |      | 535  | 611  | 667  | 714  | 757  | 841  | 900  | 950  | 1017 | 1061 | 1544* |       |
| 4 (NM_206945.3)           | 5946     | e (NP_996828)       | 1556     |     |     |     |     | 1   | 73  | 114 | 172 |     | MIR204 | 230  | 271  |       | 296  | 329  | 374  | 391  | 403  | 450  |      | 547  | 623  | 679  | 726  | 769  | 853  | 912  | 962  | 1029 | 1073 | 1556* |       |
| 5 (NM_206946.3)           | 6015     | f (NP_996829)       | 1579     |     |     |     |     | 1   | 73  | 114 | 172 | 197 | MIR204 | 255  | 296  |       | 321  | 354  | 399  | 416  |      | 463  | 473  | 570  | 646  | 702  | 749  | 792  | 876  | 935  | 985  | 1052 | 1096 | 1579* |       |
| 6 (NM_206947.3)           | 5985     | g (NP_996830)       | 1569     |     |     |     |     | 1   | 73  | 114 | 172 | 197 | MIR204 | 255  | 296  |       | 321  | 354  | 399  | 416  |      | 463  |      | 560  | 636  | 692  | 739  | 782  | 866  | 925  | 975  | 1042 | 1086 | 1569* |       |
| 7 (NM_206948.2)           | 1303     | h (NP_996831)       | 230      |     |     |     |     | 1   | 73  | 114 | 172 |     | MIR204 | 230* |      |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 8 (NM_001007470.1)        | 1378     | c (NP_001007471)    | 255      |     |     |     |     | 1   | 73  | 114 | 172 | 197 | MIR204 | 255* |      |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 9 (NM_001007471.2)        | 6288     | k (NP_001007472)    | 1707     |     | 59  |     | 86  | 154 | 226 | 267 | 325 |     | MIR204 | 383  | 424  |       | 449  | 482  | 527  | 544  |      | 591  | 601  | 698  | 774  | 830  | 877  | 920  | 1004 | 1063 | 1113 | 1180 | 1224 | 1707* |       |
| 10 (NM_001366141.1)       | 12158    | i (NP_001353070)    | 1709     | 61  |     |     | 88  | 156 | 228 | 269 | 327 |     | MIR204 | 385  | 426  |       | 451  | 484  | 529  | 546  |      | 593  | 603  | 700  | 776  | 832  | 879  | 922  | 1006 | 1065 | 1115 | 1182 | 1226 | 1709* |       |
| 11 (NM_001366142.1)       | 10524    | j (NP_001353071)    | 1339     | 61  |     |     | 88  | 156 | 228 | 269 | 327 |     | MIR204 | 385  | 426  |       | 451  | 484  | 529  | 546  | 558  | 605  | 615  | 712  | 788  | 844  | 891  | 934  | 1018 | 1077 | 1127 | 1194 | 1238 | 1333  | 1339* |
| 12 (NM_001366143.1)       | 10488    | w (NP_001353072)    | 1327     | 61  |     |     | 88  | 156 | 228 | 269 | 327 |     | MIR204 | 385  | 426  |       | 451  | 484  | 529  | 546  |      | 593  | 603  | 700  | 776  | 832  | 879  | 922  | 1006 | 1065 | 1115 | 1182 | 1226 | 1321  | 1327* |
| 13 (NM_001366144.1)       | 1538     | l (NP_001353073)    | 385      | 61  |     |     | 88  | 156 | 228 | 269 | 327 |     | MIR204 | 385* |      |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 14 (NM_001366145.1)       | 12319    | m (NP_001353074)    | 1719     |     | 59  |     | 86  | 154 | 226 | 267 | 325 |     | MIR204 | 383  | 424  |       | 449  | 482  | 527  | 544  | 556  | 603  | 613  | 710  | 786  | 842  | 889  | 932  | 1016 | 1075 | 1125 | 1192 | 1236 | 1719* |       |
| 15 (NM_001366146.1)       | 10649    | n (NP_001353075)    | 1337     |     | 59  |     | 86  | 154 | 226 | 267 | 325 |     | MIR204 | 383  | 424  |       | 449  | 482  | 527  | 544  | 556  | 603  | 613  | 710  | 786  | 842  | 889  | 932  | 1016 | 1075 | 1125 | 1192 | 1236 | 1331  | 1337* |
| 16 (NM_001366147.1)       | 12394    | o (NP_001353076)    | 1744     |     | 59  |     | 86  | 154 | 226 | 267 | 325 | 350 | MIR204 | 408  | 449  |       | 474  | 507  | 552  | 569  | 581  | 628  | 638  | 735  | 811  | 867  | 914  | 957  | 1041 | 1100 | 1150 | 1217 | 1261 | 1744* |       |
| 17 (NM_001366148.1)       | 10694    | p (NP_001353077)    | 1352     |     | 59  |     | 86  | 154 | 226 | 267 | 325 | 350 | MIR204 | 410  | 449  |       | 474  | 507  | 552  | 569  | 581  | 628  |      | 725  | 801  | 857  | 904  | 937  | 1031 | 1090 | 1140 | 1207 | 1251 | 1346  | 1352* |
| 18 (NM_001366149.1)       | 12289    | q (NP_001353078)    | 1709     |     | 59  |     | 86  | 154 | 226 | 267 | 325 |     | MIR204 | 383  | 424  |       | 449  | 482  | 527  | 544  | 556  | 603  |      | 700  | 776  | 832  | 879  | 922  | 1006 | 1065 | 1115 | 1182 | 1226 | 1709* |       |
| 19 (NM_001366150.1)       | 10583    | r (NP_001353079)    | 1315     |     | 59  |     | 86  | 154 | 226 | 267 | 325 |     | MIR204 | 383  | 424  |       | 449  | 482  | 527  | 544  |      | 591  |      | 688  | 764  | 820  | 867  | 910  | 994  | 1053 | 1103 | 1170 | 1214 | 1309  | 1315* |
| 20 (NM_001366151.1)       | 10613    | s (NP_001353080)    | 1325     |     | 59  |     | 86  | 154 | 226 | 267 | 325 |     | MIR204 | 383  | 424  |       | 449  | 482  | 527  | 544  |      | 591  | 601  | 698  | 774  | 830  | 877  | 920  | 1004 | 1063 | 1113 | 1180 | 1224 | 1319  | 1325* |
| 21 (NM_001366152.1)       | 10724    | t (NP_001353081)    | 1362     |     | 59  |     | 86  | 154 | 226 | 267 | 325 | 350 | MIR204 | 410  | 449  |       | 474  | 507  | 552  | 569  | 581  | 628  | 638  | 735  | 811  | 867  | 914  | 947  | 1041 | 1100 | 1150 | 1217 | 1261 | 1356  | 1362* |
| 22 (NM_001366153.1)       | 1663     | u (NP_001353082)    | 383      |     | 59  |     | 86  | 154 | 226 | 267 | 325 |     | MIR204 | 383* |      |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 23 (NM_001366154.1)       | 10272    | v (NP_001353083)    | 1184     |     |     |     |     | 1   | 73  | 114 | 172 |     | MIR204 | 230  | 271  |       | 296  | 329  | 374  | 391  | 403  | 450  | 460  | 557  | 633  | 689  | 736  | 779  | 863  | 922  | 972  | 1039 | 1083 | 1178  | 1184* |
| B. Predicted (GRCh38.p13) |          |                     |          |     |     |     |     |     |     |     |     |     |        |      |      |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| X1 (XM_017015156)         | 11544    | X1 (XP_016870645)   | 1290     |     |     |     |     |     |     |     |     |     | MIR204 |      |      |       | 20   | 53   | 98   | 115  | 127  | 174  | 184  | 281  | 357  | 413  | 460  | 503  | 587  | 646  | 696  | 763  | 807  | 1290* |       |
| X2 (XM_024447681)         | 11514    | X2 (XP_024303449)   | 1280     |     |     |     |     |     |     |     |     |     | MIR204 |      |      |       | 20   | 53   | 98   | 115  | 127  | 174  |      | 271  | 347  | 403  | 450  | 493  | 577  | 636  | 686  | 753  | 797  | 1280* |       |
| X3 (XM_024447682)         | 11508    | X3 (XP_024303450)   | 1278     |     |     |     |     |     |     |     |     |     | MIR204 |      |      |       | 20   | 53   | 98   | 115  |      | 162  | 172  | 269  | 345  | 401  | 448  | 491  | 575  | 634  | 684  | 751  | 795  | 1278* |       |
| X4 (XM_024447683)         | 11478    | X4 (XP_024303451)   | 1268     |     |     |     |     |     |     |     |     |     | MIR204 |      |      |       | 20   | 53   | 98   | 115  |      | 162  |      | 259  | 335  | 391  | 438  | 481  | 565  | 624  | 674  | 741  | 785  | 1268* |       |
| X5 (XM_024447684)         | 9874     | X5 (XP_024303452)   | 908      |     |     |     |     |     |     |     |     |     | MIR204 |      |      |       | 20   | 53   | 98   | 115  | 127  | 174  | 184  | 281  | 357  | 413  | 460  | 503  | 587  | 646  | 696  | 763  | 807  | 902   | 908*  |
| X6 (XM_024447685)         | 9844     | X6 (XP_024303453)   | 898      |     |     |     |     |     |     |     |     |     | MIR204 |      |      |       | 20   | 53   | 98   | 115  | 127  | 174  |      | 271  | 347  | 403  | 450  | 493  | 577  | 636  | 686  | 753  | 797  | 892   | 898*  |
| X7 (XM_024447686)         | 9838     | X7 (XP_024303454)   | 896      |     |     |     |     |     |     |     |     |     | MIR204 |      |      |       | 20   | 53   | 98   | 115  |      | 162  | 172  | 269  | 345  | 401  | 448  | 491  | 575  | 634  | 684  | 751  | 795  | 890   | 896*  |
| X8 (XM_024447687)         | 1589     | X8 (XP_024303455)   | 410      | 61  |     |     | 88  | 156 | 228 | 269 | 327 | 352 | MIR204 | 410* |      |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| X10 (XM_011519037)        | 12351    | X10 (XP_011517339)  | 1734     |     | 59  |     | 86  | 154 | 226 | 267 | 325 | 350 | MIR204 | 408  | 449  |       | 474  | 507  | 552  | 569  | 581  | 628  |      | 725  | 801  | 857  | 904  | 947  | 1031 | 1090 | 1140 | 1207 | 1251 | 1734* |       |
| X11 (XM_011519038)        | 12344    | X11 (XP_011517340)  | 1732     |     | 59  |     | 86  | 154 | 226 | 267 | 325 | 350 | MIR204 | 408  | 449  |       | 474  | 507  | 552  | 569  |      | 616  | 626  | 723  | 799  | 855  | 902  | 945  | 1029 | 1088 | 1138 | 1205 | 1249 | 1732* |       |
| X12 (XM_011519039)        | 12314    | X12 (XP_011517341)  | 1722     |     | 59  |     | 86  | 154 | 226 | 267 | 325 | 350 | MIR204 | 408  | 449  |       | 474  | 507  | 552  | 569  |      | 616  |      | 713  | 789  | 845  | 892  | 935  | 1019 | 1078 | 1128 | 1195 | 1239 | 1722* |       |
| X13 (XM_011519040)        | 12145    | X13 (XP_011517342)  | 1721     | 61  |     |     | 88  | 156 | 228 | 269 | 327 |     | MIR204 | 385  | 426  |       | 451  | 484  | 529  | 546  | 558  | 605  | 615  | 712  | 788  | 844  | 891  | 934  | 1018 | 1077 | 1127 | 1194 | 1238 | 1721* |       |
| X15 (XM_011519042)        | 12115    | X15 (XP_011517344)  | 1711     | 61  |     |     | 88  | 156 | 228 | 269 | 327 |     | MIR204 | 385  | 426  |       | 451  | 484  | 529  | 546  | 558  | 605  |      | 702  | 778  | 834  | 881  | 924  | 1008 | 1067 | 1117 | 1184 | 1228 | 1711* |       |
| X18 (XM_011519045)        | 12078    | X18 (XP_011517347)  | 1699     | 61  |     |     | 88  | 156 | 228 | 269 | 327 |     | MIR204 | 385  | 426  |       | 451  | 484  | 529  | 546  |      | 593  |      | 690  | 766  | 822  | 869  | 912  | 996  | 1055 | 1105 | 1172 | 1216 | 1699* |       |
| X19 (XM_011519046)        | 12239    | X19 (XP_011517348)  | 1697     |     | 59  |     | 86  | 154 | 226 | 267 | 325 |     | MIR204 | 383  | 424  |       | 449  | 482  | 527  | 544  |      | 591  |      | 688  | 764  | 820  | 867  | 910  | 994  | 1053 | 1103 | 1170 | 1214 | 1697* |       |