

**Figure 2 –Suppl. Fig. 2** Overview of transcription factor (TF) binding sites identified in ARBSs present in 452 AR target genes. **Left to right: Column 1:** TF binding sites identified in ARBSs in the overarching 452 AR target gene signature. **Columns 2-18:** TF binding sites identified in AR binding sites in AR target gene sets that depend on the 17 coregulators shown. Blue, statistically significantly enrichment of the TF binding sites and corresponding P value; none, no statistically significant TF binding site enrichment.

| id               | factors                                   | dbd                              | consensus    | 452 genes   | SMARCC1     | BAG1     | SMARCA4     | CTNNB1   | CAV1     | PARK7    | FHL2     | KDM1A    | WDR77    | EP300    | PKN1     | NCOA1    | NCOA2    | NCOA3    | STAT3    | HTATIP2  | KAT5     |
|------------------|-------------------------------------------|----------------------------------|--------------|-------------|-------------|----------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| M00999_observed  | AIRE,Aire                                 | Sand Domain Family               | 9GG7GGT5     | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | 0.000143 | none     | none     | none     | none     |
| UP00108_observed | ALX3,Alx3                                 | Homeodomain Family               | 5TAATT7      | none        | none        | none     | none        | none     | none     | 0.000492 | none     | none     | none     | none     | none     | none     | none     | 5.34E-05 | none     | none     | none     |
| UP00187_observed | ALX4,Alx4                                 | Homeodomain Family               | 6T1ATTAS     | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | 2.72E-05 | none     | none     | none     |
| MA0007_observed  | AR,Ar                                     | Hormone-nuclear Receptor Family  | 5G2C5GT1C4   | 2.1982E-23  | 1.6697E-08  | none     | 1.1106E-08  | none     | 3.36E-06 | 1E-30    | 0.000238 | 1.52E-06 | 8.91E-10 | 2.73E-13 | 1.23E-05 | 1.4E-06  | 0.000699 | 0.000702 | 5.41E-10 | none     | 5.13E-05 |
| UP00078_observed | ARID3A,Arid3a                             | Arid Domain Family               | 6TAAT1A5     | none        | none        | none     | none        | none     | none     | none     | none     | 0.000205 | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M00454_observed  | ARID5B,Arid5b                             | Arid Domain Family               | T2RT1TT6     | 5.6753E-06  | none        | none     | none        | none     | none     | 0.000394 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| UP00152_observed | Arx                                       | Homeodomain Family               | 5YT1AT1A5    | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | 0.000391 | none     | none     | none     |
| UP00099_observed | Ascl2                                     | Helix-Loop-Helix Family (bHLH)   | 5CA1CTG6     | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | 0.000419 | none     |
| M00179_observed  | ATF2,Atf2                                 | Leucine zipper Family (bZIP)     | DSWKRCGTCSAB | 0.00087983  | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| MC00011_observed | ATF3                                      | Leucine zipper Family (bZIP)     | VYCAVGTGAC   | none        | none        | none     | none        | none     | none     | 0.000249 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| UP00166_observed | BARHL1,Barhl1                             | Homeodomain Family               | 4TAATT7      | 0.00053632  | none        | none     | none        | none     | none     | 2.49E-07 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| UP00145_observed | BARHL2,Barhl2                             | Homeodomain Family               | 4TA1TTG6     | none        | none        | none     | none        | none     | none     | 0.000244 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| UP00151_observed | BARX2,Barx2                               | Homeodomain Family               | 4YATAT7      | none        | none        | none     | 0.00033167  | none     | none     | 0.000687 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M01171_observed  | BCL6,Bcl6                                 | BetaBetaAlpha-zinc finger Family | 6KTTCTAGGW   | none        | none        | none     | 0.00058339  | none     | none     | 3.9E-06  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| EN0006_observed  | BHLHE40                                   | Helix-Loop-Helix Family (bHLH)   | 8CA1GTG8     | 0.00018905  | none        | none     | none        | none     | none     | 3.04E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M00456_observed  | BPTF,Bptf                                 | None                             | 4TGT1T14     | none        | none        | none     | none        | none     | none     | 3.39E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| UP00138_observed | Bsx                                       | Homeodomain Family               | 5AAATT5A1    | none        | none        | none     | none        | none     | none     | 2.34E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| hPD1133_observed | CBFB                                      | None                             | CATT7        | none        | none        | none     | none        | none     | none     | 0.00013  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M00159_observed  | CEBPA,Cebp                                | Leucine zipper Family (bZIP)     | 3T25CA1A2    | none        | none        | none     | none        | none     | none     | 9.33E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| MC00013_observed | CEBPB,Cebpb                               | Leucine zipper Family (bZIP)     | 4TTR3MA1     | none        | none        | none     | none        | 4.17E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| UP00176_observed | CRX,Crx                                   | Homeodomain Family               | 7GTATT4      | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | 6.39E-05 | none     | none     |
| MA0139_observed  | CTCF,Ctcf                                 | BetaBetaAlpha-zinc finger Family | 4C15IAG2G6   | none        | none        | 3.94E-05 | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M00105_observed  | CUX1,Cux1                                 | Homeodomain Family               | C1A1A8T7     | none        | none        | none     | none        | none     | none     | none     | none     | 8.63E-07 | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M00624_observed  | DBP,DBp                                   | Leucine zipper Family (bZIP)     | AGCAMWC      | 6.7745E-11  | 2.3183E-10  | none     | 0.00001633  | none     | none     | 1.06E-09 | none     | none     | none     | 0.000355 | none     | 1.54E-09 | 8.84E-06 | none     | 4.18E-06 | none     | none     |
| M01483_observed  | Dbx1                                      | Homeodomain Family               | 7TA1TT3W1    | none        | 0.0003333   | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| UP00218_observed | Dbx2                                      | Homeodomain Family               | 6TAAT1A4     | none        | 0.000031871 | none     | 0.00054339  | none     | none     | none     | none     | 7.89E-05 | none     | none     | none     | none     | 0.00051  | none     | none     | none     | none     |
| UP00126_observed | DLX2,Dlx2                                 | Homeodomain Family               | 5AATT5A1     | 0.0001947   | none        | none     | none        | none     | none     | 1.03E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M01146_observed  | DMRT1,Dmrt1                               | DMRT Domain Family               | 2G2ACA1T5    | 0.000063363 | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | 0.000181 | none     | none     | none     | none     |
| M01149_observed  | Dmrt1                                     | DMRT Domain Family               | 1A1GT2CA4    | 9.3018E-15  | none        | none     | none        | none     | none     | 3.27E-11 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M01150_observed  | Dmrt2                                     | DMRT Domain Family               | 3A2GT2CIA2   | none        | none        | none     | none        | none     | none     | 6.07E-06 | none     | none     | none     | none     | none     | 2.05E-07 | 1.81E-05 | none     | none     | none     | none     |
| MA0024_observed  | E2F1,E2f1                                 | E2F Domain Family                | TTTSGCGC     | none        | none        | none     | none        | none     | none     | none     | none     | 0.000131 | none     | none     | none     | none     | none     | none     | 0.000514 | none     | none     |
| M00738_observed  | E2F4:TFDP1                                | E2F Domain Family                | GCSSGAAA     | 0.00099848  | none        | none     | none        | none     | none     | 0.000742 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M01252_observed  | E2F6,E2f6                                 | E2F Domain Family                | YSTTTCYT     | none        | 0.000010711 | 0.000182 | 3.998E-07   | none     | none     | none     | 0.000593 | 0.000784 | none     | none     | none     | 0.000123 | none     | none     | none     | none     | none     |
| UP00007_observed | EGR1,Egr1                                 | BetaBetaAlpha-zinc finger Family | ACCC1C13     | none        | none        | none     | none        | none     | none     | none     | none     | none     | 0.000896 | none     | none     | none     | none     | 4.07E-05 | none     | none     | none     |
| UP00201_observed | EMX2,Emx2                                 | Homeodomain Family               | 5TMAT1A6     | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | 0.000267 | none     | none     | none     | none     |
| UP00167_observed | EN1,En1                                   | Homeodomain Family               | 4A2A1TT4     | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 5.45E-06 | 0.0008   | none     | none     | none     | none     |
| UP00163_observed | EN2,En2                                   | Homeodomain Family               | 6AATTR6      | none        | none        | none     | 0.000094913 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| UP00068_observed | EOMES,Eomes                               | Transcription Factor T-Domain    | 5T2CACCS     | none        | none        | none     | none        | none     | none     | 0.000316 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| MC00009_observed | ERG                                       | Ets Domain Family                | MGGAWDTCKK   | none        | 0.00014158  | none     | none        | none     | none     | 4.8E-07  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| MA0112_observed  | ESR1,Esr1                                 | Hormone-nuclear Receptor Family  | 6G2CA3TG4    | none        | none        | none     | none        | none     | none     | 0.000131 | 0.000225 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| MA0258_observed  | ESR2                                      | Hormone-nuclear Receptor Family  | 4GTCATC2     | none        | none        | none     | 0.00020324  | none     | none     | none     | 2.34E-05 | 0.00018  | none     | 6.08E-05 | 0.000914 | 3.38E-05 | none     | none     | none     | none     | none     |
| UP00414_observed | ETS1,Ets1                                 | Ets Domain Family                | 5AC1GGAG     | none        | none        | none     | none        | 0.000248 | 0.000715 | none     | none     | none     | none     | 0.000683 | none     | none     | none     | none     | none     | none     | none     |
| UP00421_observed | Etv1                                      | Ets Domain Family                | 5C1GGAW6     | none        | none        | none     | none        | none     | none     | none     | 0.000948 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| UP00417_observed | Etv4,Etv4                                 | Ets Domain Family                | 4C1GGA2Y4    | none        | none        | none     | none        | none     | none     | none     | 3.56E-06 | none     | none     | 5.78E-05 | none     | none     | none     | none     | none     | none     | none     |
| UP00418_observed | Etv6                                      | Ets Domain Family                | 7TTCG5       | none        | none        | none     | none        | 2.53E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M00678_observed  | ETV7                                      | Ets Domain Family                | CAGGAAGTRR   | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | 2.8E-05  | none     | 0.00049  | none     | none     | none     | none     |
| UP00132_observed | Evx2                                      | Homeodomain Family               | 1C3CT1A2A5   | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.00098  | none     | none     | none     | none     | none     |
| MC00021_observed | FOSL1                                     | Leucine zipper Family (bZIP)     | 6TA1G1C3R    | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | 0.000462 | none     | none     | none     | none     | none     | none     | none     |
| MC00022_observed | FOSL2                                     | Leucine zipper Family (bZIP)     | TGASTCA      | none        | none        | none     | 0.00054914  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| MA0148_observed  | FOXA1,Foxa1                               | Forkhead Domain Family           | MWRWGYAAACA  | 1.0554E-13  | 6.2123E-08  | none     | 1.3725E-11  | none     | none     | 1.85E-24 | none     | 9.81E-05 | none     | 2.83E-09 | none     | 5.25E-05 | none     | 2.04E-05 | 0.000297 | none     | none     |
| MC00023_observed | FOXA2                                     | Forkhead Domain Family           | 4G1AA1A2     | 2.0555E-20  | 5.7941E-12  | none     | 1.0296E-18  | none     | 1.11E-08 | 1E-30    | none     | 4.64E-07 | 6.62E-05 | 7.43E-12 | none     | none     | none     | none     | none     | 0.00087  | none     |
| M00291_observed  | FOXC1,Foxc1                               | Forkhead Domain Family           | 5G1AA1A4     | 1.2231E-07  | 0.0006198   | none     | 0.000090679 | none     | none     | 9.57E-12 | none     | 1.18E-10 | none     | 0.000237 | none     | none     | none     | none     | none     | none     | none     |
| MA0031_observed  | FOXD1                                     | Forkhead Domain Family           | GTAACAW      | 3.1193E-10  | 0.00013009  | 1.01E-05 | 5.5362E-07  | none     | none     | 2.64E-16 | 0.000343 | 5.07E-06 | none     | 1.3E-09  | none     | none     | none     | none     | none     | none     | none     |
| MA0041_observed  | FOXD3,Foxd3                               | Forkhead Domain Family           | RARYAAAYAWWY | 0.000026204 | none        | none     | none        | none     | none     | 1.43E-11 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M00294_observed  | Foxf1a                                    | Forkhead Domain Family           | 5AAACA3      | none        | none        | none     | none        | none     | none     | 0.000475 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| MA0030_observed  | FOXF2                                     | Forkhead Domain Family           | 6TAAAI1A2    | 6.0415E-09  | 0.00016215  | none     | none        | none     | none     | 9.03E-09 | none     | 3.03E-08 | none     | 4.73E-05 | 5.42E-05 | none     | 0.00036  | none     | none     | none     | none     |
|                  | FOXH1,FOXD3,Foxf2,FOXJ1,FOXf1,Foxh1,Foxd3 |                                  |              |             |             |          |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
| M00809_observed  | ,FOXf2,Foxj1                              | Forkhead Domain Family           | 2A2AAA1A3    | 1.6662E-08  | none        | none     | 2.3334E-06  | none     | none     | 8.06E-20 | none     | 0.00011  | none     | 1.3E-06  | none     | none     | 8.25E-07 | none     | none     | none     | none     |
| M00289_observed  | FOXJ1,Foxj1                               | Forkhead Domain Family           | 1A3AAA1A3    | 4.8865E-07  | none        | none     | 0.00021378  | none     | none     | 3.16E-09 | none     | none     | none     | 0.000549 | none     | none     | none     | none     | none     | none     | none     |
| UP00041_observed | Foxj1                                     | Forkhead Domain Family           | 4T1AACAA6    | 1.488E-07   | 0.000041434 | 2.84E-05 | 2.4918E-07  | none     | none     | 1.41E-12 | none     | 1.25E-06 | none     | 2.23E-06 | none     | 2.73E-05 | none     | none     | none     | none     | none     |
| M00422_observed  | FOXJ2,Foxj2                               | Forkhead Domain Family           | 6R1AAA1A5    | none        | none        | none     | 0.00022649  | none     | 0.000889 | 1.22E-07 | none     | none     | none     | 0.00057  | none     | none     | none     | none     | none     | none     | none     |
| MC00010_observed | FOXJ3,Foxj3                               | Forkhead Domain Family           | RTAAACAA     | 9.0168E-09  | 0.000077961 | 0.000304 | 8.9946E-09  | 0.000686 | none     | 1.08E-14 | none     | 2.08E-08 | none     | 1.52E-05 | none     | none     | none     | none     | none     | none     | none     |
| UP00061_observed | FOXJ1,Foxj1                               | Forkhead Domain Family           | 6TAAAI1A5    | 2.6301E-08  | 0.000015104 | none     | 4.5565E-06  | none     | none     | 8.26E-06 | none     | 3.13E-08 | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M00473_observed  | FOXO1,Foxo1                               | Forkhead Domain Family           | TTGTTTTWWK   | 0.000072553 | none        | 0.00086  | none        | none     | none     | 2.36E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| MA0157_observed  | FOXO3,Foxo3                               | Forkhead Domain Family           | KGWAAACA     | 0.00014827  | none        | none     | none        | none     | none     | 8.1E-10  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| M00472_observed  | FOXO4,Foxo4                               | Forkhead Domain Family           | DRTYTTTWWY   | none        | 0.000203    | none     | none        | none     | none     | 2.35E-08 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |
| EN0232_observed  | FOXp2                                     | Forkhead Domain Family           | GTAACAA      | 8.6775E-07  | 0.000011622 | 0.000498 | 1.8733E-07  | none     | none     | 2.48E-09 | none     | 7.66E-05 | none     | 2.05E-05 | 0.000585 | none     | none     | none     | none     | none     | none     |
| MA0040_observed  | Foxp1                                     | Forkhead Domain Family           | WMWTTTTRTT   | none        | 0.000478    |          |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |

|                  |                   |                                              |              |             |             |          |             |          |          |          |          |          |          |          |          |          |          |          |      |
|------------------|-------------------|----------------------------------------------|--------------|-------------|-------------|----------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------|
| M01058_observed  | GF1B8,Gf1b        | BetaBetaAlpha-zinc finger Family             | YAAATCASWKWC | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | 0.000589 | none     | none     | none     | none |
| UP00423_observed | Gm5454            | Ets Domain Family                            | 4C1GGGA2T4   | none        | none        | none     | none        | none     | none     | none     | 0.000488 | none     | none     | none     | none     | none     | none     | none     | none |
| UP00084_observed | Gmeb1             | Sand Domain Family                           | 5KRGGV7      | none        | none        | none     | none        | none     | none     | 9.96E-08 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00112_observed | Gsc               | Homeodomain Family                           | 6GATTA6      | none        | none        | none     | none        | none     | 2.74E-05 | none     | none     | none     | none     | none     | none     | none     | none     | 0.00033  | none |
| M00707_observed  | GTF2A1,GTF2A2     | None                                         | SBYSCYDYAKR  | 8.396E-13   | none        | none     | none        | none     | none     | 0.00043  | none     | none     | 0.000174 | none     | none     | none     | none     | 2.92E-06 | none |
| M01241_observed  | GTF2IRD1,Gtf2ird1 | GTF2l Domain Family                          | TRTGCQVG     | none        | none        | 9.21E-05 | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M01069_observed  | GZF1,Gzf1         | BetaBetaAlpha-zinc finger Family             | TGCGCTTMTATA | none        | none        | none     | none        | none     | 6.28E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M00260_observed  | HLF,Hlf           | Leucine zipper Family (bZIP)                 | ATKRYRTAAy   | none        | none        | none     | none        | none     | none     | 8.82E-06 | none     | none     | 0.000416 | 0.000505 | none     | none     | none     | none     | none |
| UP00161_observed | Hmbbox1           | Homeodomain Family                           | 5T1AC1AG5    | 1.1441E-06  | none        | none     | none        | none     | none     | 0.000156 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M00433_observed  | Hmx3              | Homeodomain Family                           | CACGCACCTG   | 6.6743E-06  | 0.000010899 | none     | none        | none     | none     | 2.58E-11 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| MA0046_observed  | HNF1A,Hnf1a       | Homeodomain Family                           | 1GT1AT17     | 0.000092346 | 1.0346E-09  | none     | 2.9273E-11  | none     | none     | none     | none     | 5.38E-06 | 1.62E-05 | 5.42E-06 | none     | 0.000834 | none     | 1.44E-06 | none |
| M00646_observed  | HNF1B             | Homeodomain Family                           | YWGVBCCC     | 0.00021838  | none        | none     | none        | none     | none     | none     | none     | 0.000306 | none     | none     | none     | none     | 8.41E-07 | none     | none |
| MC00024_observed | HNF4A             | Hormone-nuclear Receptor Family              | 1G2CTTIG4    | none        | none        | none     | none        | 3.76E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00264_observed | HOXA1,Hoxa1       | Homeodomain Family                           | 6TAATTS      | 0.000033899 | none        | none     | none        | none     | none     | 2.13E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00183_observed | HOXA13,Hoxa13     | Homeodomain Family                           | 4TT1A2AG4    | none        | 0.00067682  | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.000225 | none     | none     | none |
| UP00391_observed | HOXA3,Hoxa3       | Homeodomain Family                           | 7MATTA2      | none        | none        | none     | none        | none     | none     | 0.000109 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M00640_observed  | HOXA4,Hoxa4       | Homeodomain Family                           | RWAAyTRG     | 0.000096308 | none        | none     | none        | none     | none     | 0.000646 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00196_observed | HOXA4,Hoxa4       | Homeodomain Family                           | 6T1ATTA5     | none        | none        | none     | 0.000073151 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00189_observed | HOXA5,Hoxa5       | Homeodomain Family                           | 4TAAT1A6     | none        | none        | none     | none        | none     | 6.84E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00182_observed | HOXA6,Hoxa6       | Homeodomain Family                           | 5AATTA6      | 0.000017262 | none        | none     | none        | none     | none     | 0.000151 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00164_observed | HOXA7,Hoxa7       | Homeodomain Family                           | 6TAAT1A4     | none        | none        | none     | none        | none     | none     | 9.65E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M01108_observed  | HOXA7,Hoxa7       | Homeodomain Family                           | AGATTGR      | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | 0.000132 | none     | none |
| UP00144_observed | Hoxb4             | Homeodomain Family                           | 5TAAT1A6     | 0.00057018  | none        | none     | 9.7474E-08  | none     | none     | none     | none     | none     | none     | none     | none     | 0.000709 | none     | none     | none |
| UP00263_observed | Hoxb8             | Homeodomain Family                           | 4G2AT1AA4    | none        | none        | none     | none        | none     | 7.33E-05 | none     | none     | none     | 5.18E-05 | none     | none     | none     | none     | none     | none |
| UP00173_observed | HOXC13,Hoxc13     | Homeodomain Family                           | 4TTTA2A5     | none        | none        | none     | none        | none     | 0.000389 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00113_observed | HOXC4,Hoxc4       | Homeodomain Family                           | 6T1ATTA5     | none        | none        | none     | 0.00046182  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00260_observed | Hoxc6             | Homeodomain Family                           | 7AATTA5      | none        | none        | none     | 0.0007166   | none     | none     | none     | none     | none     | 0.000106 | none     | none     | none     | none     | none     | none |
| UP00242_observed | HOXC8,Hoxc8       | Homeodomain Family                           | 4TAAT1A6     | none        | none        | none     | none        | 0.000947 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00197_observed | HOXC9,Hoxc9       | Homeodomain Family                           | 3TTTA1T7     | none        | none        | none     | none        | none     | none     | none     | none     | none     | 0.000192 | none     | none     | none     | none     | none     | none |
| UP00140_observed | Hoxd1             | Homeodomain Family                           | 5YAATT7      | none        | none        | none     | none        | none     | 3.25E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00241_observed | HOXD3,Hoxd3       | Homeodomain Family                           | 5MATKA6      | none        | none        | none     | none        | none     | 0.000865 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| MA0319_observed  | HSF1,Hsf1         | Transcription Factor Family                  | ATGGAAAC     | 0.000021906 | none        | none     | none        | 9.31E-05 | none     | none     | none     | none     | none     | none     | none     | none     | 2.7E-06  | none     | none |
| M01004_observed  | IKZF2,Ikzf2       | BetaBetaAlpha-zinc finger Family             | TTTTCCVWVDW  | 0.00082446  | none        | none     | none        | none     | 5.06E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| MC00025_observed | IRF1              | Interferon Regulatory Factor                 | YSATTGG      | none        | none        | none     | none        | none     | none     | none     | none     | 0.000821 | none     | none     | none     | none     | none     | none     | none |
| M00062_observed  | IRF1,Irf1         | Interferon Regulatory Factor                 | 2T1T3TTT2    | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.000166 | 0.000236 | none     | none |
| M00699_observed  | IRF8,Irf8         | Interferon Regulatory Factor                 | RAARWGAASTR  | 0.00076218  | none        | none     | none        | none     | 2.82E-07 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00250_observed | IRX5,Irx5         | Homeodomain Family                           | 5ACATG7      | none        | none        | none     | none        | none     | 7.5E-06  | 4.79E-06 | 0.000255 | none     | none     | 0.000451 | 5.24E-06 | none     | none     | none     | none |
| UP00150_observed | IRX6,Irx6         | Homeodomain Family                           | 5ACATG7      | none        | none        | none     | none        | none     | 3.15E-06 | 1.06E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00170_observed | Isl2              | Homeodomain Family                           | 4A3MTTAA     | none        | none        | none     | none        | none     | none     | none     | 0.000892 | none     | none     | none     | none     | 2.41E-05 | none     | none     | none |
| UP00243_observed | Isx               | Homeodomain Family                           | 4C1AATT6     | 5.2602E-10  | 0.00015498  | none     | 0.00077824  | none     | 2.95E-10 | none     | none     | none     | none     | none     | none     | 0.000509 | none     | none     | none |
| hPD1035_observed | JDP2              | Leucine zipper Family (bZIP)                 | SACGTGTy     | 0.00029894  | none        | none     | none        | none     | 0.000613 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| EN0285_observed  | JUND              | Leucine zipper Family (bZIP)                 | 1CC2G2T3     | none        | none        | none     | none        | none     | 1.76E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M00468_observed  | KLF12,Klf12       | BetaBetaAlpha-zinc finger Family             | YCCACTG      | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.00011  | none     | none     | none |
| M01714_observed  | KLF15,Klf15       | BetaBetaAlpha-zinc finger Family             | YGGGG1G3     | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | 0.000577 | none     | none |
| MA0039_observed  | KLF4,Klf4         | BetaBetaAlpha-zinc finger Family             | RCCMCWCCCW   | none        | none        | 1.16E-05 | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | 2.3E-06  | none     | none |
| UP00093_observed | Klf7              | BetaBetaAlpha-zinc finger Family             | 4CC1C1C1C4   | none        | none        | 0.000645 | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00120_observed | Lbx2              | Homeodomain Family                           | 6T1ATTA5     | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.000314 | none     | none     | none |
| UP00067_observed | LEF1,Lef1         | High Mobility Group (Box) Family             | 6TTTGA6      | 0.000002238 | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00262_observed | Lhx1              | Homeodomain Family                           | 7AATTA5      | none        | 0.00034743  | none     | 0.000015729 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00130_observed | LHX3,Lhx3         | Homeodomain Family                           | 5T1ATTA6     | none        | 0.00020623  | none     | none        | none     | 0.000331 | none     | 6.74E-06 | none     | none     | none     | none     | none     | none     | none     | none |
| UP00261_observed | LHX4,Lhx4         | Homeodomain Family                           | 7AATTR5      | 0.00011284  | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00212_observed | LHX5,Lhx5         | Homeodomain Family                           | 5TAATT7      | 0.000079274 | none        | none     | 0.000021547 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00184_observed | Lhx8              | Homeodomain Family                           | 7AT1RGC4     | 0.000013271 | none        | none     | none        | none     | 6.34E-09 | none     | none     | none     | none     | none     | none     | none     | 0.000187 | none     | none |
| UP00175_observed | Lhx9              | Homeodomain Family                           | 6TAATT6      | none        | none        | none     | 6.6018E-06  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00188_observed | LMX1A,Lmx1a       | Homeodomain Family                           | 5TAAT1A6     | none        | none        | none     | none        | none     | none     | none     | 0.000336 | none     | none     | none     | none     | none     | none     | none     | none |
| UP00169_observed | LMX1B,Lmx1b       | Homeodomain Family                           | 6TAAT1A5     | none        | none        | none     | none        | none     | none     | 6.09E-08 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M00983_observed  | MAF,Maf           | Leucine zipper Family (bZIP)                 | TGCTGAGTCAK  | none        | 0.00018518  | none     | 4.6589E-13  | none     | 3.85E-06 | 0.000241 | 5.27E-05 | 0.000189 | 0.000777 | none     | none     | none     | none     | none     | none |
| UP00186_observed | MEIS1,Meis1       | Homeodomain Family                           | 4TGC1CAG6    | none        | none        | none     | none        | none     | none     | 0.000974 | 0.000361 | none     | none     | none     | none     | none     | none     | none     | none |
| M01488_observed  | MEIS2,Meis2       | Interferon Regulatory Factor                 | 6CTG1CA4     | none        | none        | none     | none        | none     | 0.000642 | none     | none     | none     | none     | none     | none     | 0.000584 | none     | none     | none |
| M01395_observed  | MEIS3,Meis3       | Interferon Regulatory Factor                 | 4TGCACAT7    | none        | none        | none     | none        | none     | none     | none     | none     | 0.000247 | none     | none     | none     | none     | none     | none     | none |
| UP00234_observed | MSX1,Msx1         | Homeodomain Family                           | 4TAATT7      | 0.00046007  | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00156_observed | MSX2,Msx2         | Homeodomain Family                           | 7AATTA5      | none        | none        | none     | none        | none     | 2.84E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00171_observed | Msx3              | Homeodomain Family                           | 4TAATT7      | none        | none        | none     | none        | none     | 0.000261 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M01245_observed  | MTERF             | None                                         | 1CC1A6CC1    | 2.1944E-09  | none        | none     | none        | none     | 1.73E-08 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| MA0147_observed  | MYC,Myc           | Helix-Loop-Helix Family (bHLH)               | MKCACTGGGM   | none        | none        | none     | 0.000635    | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M01733_observed  | MZF1,Mzf1         | BetaBetaAlpha-zinc finger Family             | YTCGCCA      | none        | none        | none     | none        | none     | none     | none     | 0.000743 | none     | none     | none     | none     | none     | none     | none     | none |
| M01123_observed  | NANOG,Nanog       | Homeodomain Family                           | GGMAATGRBYY  | 1.6426E-09  | 2.0429E-07  | none     | none        | none     | none     | none     | none     | 1.39E-06 | none     | none     | none     | 6.61E-05 | none     | none     | none |
| M01288_observed  | NEUROD1,Neurod1   | Helix-Loop-Helix Family (bHLH)               | YWSCWGCTGBSY | 0.00086094  | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M00806_observed  | NF1,Nf1           | None                                         | 2TGGG1C0     | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | 2.87E-06 | none     | none |
| M01748_observed  | NFATC1            | Rel Homology Region Family                   | RTGGAAAMW    | none        | none        | none     | 4.66E-06    | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| MA0152_observed  | NFATC2,Nfatc2     | Rel Homology Region Family                   | TTTCCCA      | none        | none        | none     | none        | none     | none     | none     | 0.000173 | none     | none     | none     | none     | none     | 5.24E-06 | none     | none |
| M01734_observed  | NFATC4,Nfatc4     | Rel Homology Region Family                   | WSSWTTTCCY   | none        | 4.6293E-06  | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M00821_observed  | NFE2L2,Nfe2l2     | Leucine zipper Family (bZIP)                 | 2GAGTCA2     | none        | none        | none     | 0.000013211 | none     | none     | none     | 1.63E-05 | none     | none     | none     | none     | none     | none     | none     | none |
| hPD180_observed  | NFIB              | Nuclear Factor I-CCAAT-binding Transcription | GMRAAS       | 0.000068818 | 1.9599E-06  | none     | none        | none     | 7.8E-05  | none     | none     | none     | none     | none     | none     | 0.000382 | 4.31E-05 | none     | none |

|                  |                      |                                             |              |             |             |             |             |          |          |          |          |          |          |          |          |          |          |          |          |      |
|------------------|----------------------|---------------------------------------------|--------------|-------------|-------------|-------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------|
| MA0161_observed  | NFIC                 | Nuclear Factor I-CAAT-binding Transcription | TTGGCA       | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | 0.000675 | none     | none     | none     | none     | none |
| MA0025_observed  | NFIL3                | Leucine zipper Family (bZIP)                | TTAAGTAAYMW  | 8.8526E-06  | none        | none        | none        | none     | none     | 9.28E-08 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M01334_observed  | Nkx1-1               | Homeodomain Family                          | 7MATKR5      | 0.00083917  | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M01312_observed  | NKX2-1,Nkx2-1        | Homeodomain Family                          | 6AAGTG5      | none        | none        | none        | none        | none     | 0.000288 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00190_observed | NKX2-3,Nkx2-3        | Homeodomain Family                          | SAGY1CT5     | none        | none        | none        | none        | none     | none     | 8.78E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M00241_observed  | NKX2-5,Nkx2-5        | Homeodomain Family                          | SWTAATW5     | 1.4236E-06  | none        | none        | 0.00015927  | none     | none     | 0.000509 | none     | none     | none     | none     | none     | none     | 0.000358 | none     | none     |      |
| UP00147_observed | Nkx2-6               | Homeodomain Family                          | 6AAGTG5      | none        | none        | none        | none        | none     | 0.000205 | none     | none     | none     | none     | none     | none     | none     | 2.86E-05 | none     | none     |      |
| UP00017_observed | NKX3-1,Nkx3-1        | Homeodomain Family                          | 5TAAGT7      | 4.5858E-06  | none        | none        | none        | none     | none     | 8.44E-07 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00389_observed | NKX3-1,Nkx3-1        | Homeodomain Family                          | 6AGT1CT5     | none        | none        | 0.000518    | none        | 0.000963 | none     | 0.000108 | none     | 4.42E-08 | none     | none     | none     | none     | none     | none     | none     |      |
| M01482_observed  | NKX3-2,Nkx3-2        | Homeodomain Family                          | 5TAAGT7      | 0.000013827 | none        | none        | none        | none     | none     | 0.000019 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00200_observed | NKX6-1,Nkx6-1        | Homeodomain Family                          | 6TAAT1A5     | none        | none        | none        | 0.00060479  | none     | none     | none     | none     | 0.000151 | none     | 0.00041  | none     | none     | none     | none     | none     |      |
| M00489_observed  | NKX6-2,Nkx6-2        | Homeodomain Family                          | WARRTAAWKRYK | none        | none        | 0.000222    | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00238_observed | Nkx6-3               | Homeodomain Family                          | 6TAAT1A5     | none        | none        | none        | 0.0008262   | none     | none     | none     | none     | none     | none     | 7.79E-05 | none     | none     | none     | none     | none     |      |
| MA0125_observed  | Nobox                | Homeodomain Family                          | TAATKR5Y     | 0.000017375 | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M01198_observed  | Nr1h2::Rxra          | Hormone-nuclear Receptor Family             | 5A1AG2CA     | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | 0.000321 | none     | none     | none     | none     | none     |      |
| M01268_observed  | NR1H4,Nr1h4          | Hormone-nuclear Receptor Family             | RTGACCT      | none        | none        | none        | none        | none     | none     | none     | none     | 6.78E-05 | none     | none     | none     | none     | none     | none     | none     |      |
| M01776_observed  | NR2C2,Nr2c2          | Hormone-nuclear Receptor Family             | TTCCWGG      | none        | none        | none        | none        | none     | 1.59E-05 | none     | 3.36E-05 | none     | 1.97E-05 | none     | none     | none     | none     | none     | none     |      |
| MA0164_observed  | NR2E3,Nr2e3          | Hormone-nuclear Receptor Family             | CAAGCTT      | 0.000013029 | 0.00004617  | none        | 0.00012932  | none     | 0.000192 | none     | none     | 0.000233 | none     | none     | none     | none     | none     | none     | none     |      |
| MC00033_observed | NR3C1                | Hormone-nuclear Receptor Family             | 2G2CSGT1C1   | 9.895E-27   | 1.9996E-08  | none        | 6.0412E-07  | none     | none     | 1E-30    | 4.57E-07 | 6.55E-09 | 1.32E-08 | 5.28E-14 | 0.000464 | 2.63E-05 | 0.000251 | 0.000271 | 0.000271 |      |
| M00205_observed  | NR3C1,Nr3c1          | Hormone-nuclear Receptor Family             | 1AG1AC5GA    | 1.3624E-14  | 4.0015E-13  | none        | 0.00016872  | 1.34E-06 | none     | 9.99E-19 | none     | 1.39E-06 | 4.43E-06 | 1.47E-09 | 7.08E-05 | 0.000581 | none     | none     | none     |      |
| EN0028_observed  | Nrf1                 | Leucine zipper Family (bZIP)                | CRCDTGCGCR   | none        | none        | none        | none        | none     | none     | 3.16E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M01466_observed  | Obox3                | Homeodomain Family                          | 5G1GAT1A5    | none        | none        | none        | none        | 0.000622 | none     | none     | none     | none     | none     | none     | 8.64E-05 | none     | none     | none     | none     |      |
| hPDI051_observed | OLIG3                | Helix-Loop-Helix Family (bHLH)              | DSWTKTCM     | 0.00067418  | 0.000089875 | none        | 0.000062811 | none     | none     | 8.64E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M00639_observed  | ONECUT1,Onecut1      | Homeodomain Family                          | WYATTGAYTTWD | none        | none        | none        | none        | none     | none     | 0.000299 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00237_observed | Otp                  | Homeodomain Family                          | 6TAAT76      | none        | 0.000024587 | none        | 0.00022805  | none     | none     | 7.48E-05 | none     | none     | none     | none     | none     | 0.000901 | none     | none     | none     |      |
| M01104_observed  | Ovol2                | BetaBetaAlpha-zinc finger Family            | GKKGGRG      | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.000158 | none     | none     | none     |      |
| M00491_observed  | PATZ1,Patz1          | AT-hook Domain Family                       | 3G2GGGG3     | none        | none        | 0.000116    | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| MA0067_observed  | PAX2,Pax2            | Homeodomain Family                          | AGTCAYKB     | none        | none        | none        | none        | none     | none     | 3.64E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M00486_observed  | PAX2,Pax2            | Homeodomain Family                          | MMYAAASYM    | 0.00020596  | none        | none        | none        | none     | none     | 0.000686 | none     | none     | 2.58E-05 | none     | 1.94E-09 | none     | none     | none     | none     |      |
| M00327_observed  | PAX3,Pax3            | Homeodomain Family                          | 8TSAYG8      | 0.000038482 | none        | none        | none        | none     | none     | 4.54E-12 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| MC00035_observed | PAX5                 | Homeodomain Family                          | 4CA1G6TG     | none        | none        | none        | 0.00054292  | none     | none     | 7.97E-08 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| MC00036_observed | PAX5                 | Homeodomain Family                          | G1C2G6TG2    | none        | none        | none        | none        | none     | 0.000408 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| MA0069_observed  | PAX6,Pax6            | Homeodomain Family                          | 1T1A1G2T1A3  | none        | none        | none        | none        | none     | 3.44E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M00979_observed  | PAX6,Pax6            | Homeodomain Family                          | 1TG3TG2A3    | 0.00075866  | 8.5677E-06  | none        | none        | none     | none     | none     | none     | 2.59E-05 | 4E-08    | none     | none     | none     | none     | none     | none     |      |
| UP00248_observed | Pax7                 | Homeodomain Family                          | 5T1ATTA6     | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | 2.91E-06 | none     | none     | none     | none     |      |
| UP00185_observed | PBX1,Pbx1            | Homeodomain Family                          | 5CATCA7      | 0.000029312 | none        | none        | none        | none     | none     | 6.84E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| MC00037_observed | PBX3                 | Homeodomain Family                          | CTGYCAMTCA   | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.00048  | none     | none     | none     |      |
| MA0132_observed  | PDX1,Pdx1            | Homeodomain Family                          | CTAATK       | 0.00054374  | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M00957_observed  | PGR,Pgr              | Hormone-nuclear Receptor Family             | 15TGT1CT6    | 1.3289E-13  | none        | none        | none        | none     | none     | 1.73E-14 | 8.01E-06 | 1.56E-10 | none     | 2.63E-12 | 1.19E-05 | none     | none     | none     | 3.66E-05 |      |
| UP00221_observed | PHOX2A,Phox2a        | Homeodomain Family                          | 6T1ATTA4     | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.000623 | none     | none     | none     |      |
| UP00149_observed | PHOX2B,Phox2b        | Homeodomain Family                          | 8ATTAA4      | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | 4.69E-07 | none     | none     | none     |      |
| UP00205_observed | PKNOX2,Pknox2        | Homeodomain Family                          | 6CTG1CA4     | none        | 0.00061175  | none        | none        | none     | 0.000781 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00158_observed | POU1F1,Pou1f1        | Homeodomain Family                          | 5ATTA7       | none        | 0.00065508  | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M00248_observed  | POU2F1,Pou2f1        | Homeodomain Family                          | AATTW5CATATA | none        | 0.000074698 | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00179_observed | POU2F3,Pou2f3        | Homeodomain Family                          | 4ATTG3AT4    | none        | none        | none        | none        | none     | 0.000458 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00129_observed | Pou3f1               | Homeodomain Family                          | 5ATTA7       | none        | 0.00037939  | none        | none        | none     | none     | none     | none     | none     | none     | none     | 7.45E-05 | none     | none     | none     | none     |      |
| UP00128_observed | POU3F2,Pou3f2        | Homeodomain Family                          | 5T1AAT1A5    | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | 0.000129 | none     | none     | none     | none     |      |
| UP00105_observed | POU3F4,Pou3f4        | Homeodomain Family                          | 5ATTA7       | none        | 0.00055403  | none        | none        | none     | none     | 3.44E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00118_observed | POU4F3,Pou4f3        | Homeodomain Family                          | 5TTAA76      | none        | none        | none        | none        | none     | none     | 0.000336 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M01479_observed  | POU6F1,Pou6f1        | Homeodomain Family                          | 6T1ATTA5     | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.000323 | none     | none     | none     |      |
| MA0066_observed  | PPARG,Pparg          | Hormone-nuclear Receptor Family             | 3GG2A3T2C5   | none        | none        | none        | 0.000066747 | none     | 0.000173 | none     | none     | none     | 0.000445 | none     | none     | none     | 0.00047  | none     | none     |      |
| M00518_observed  | PPARG::RXRA,Pparg::R | Hormone-nuclear Receptor Family             | 3GG3T3GG5    | 0.00043659  | none        | none        | none        | none     | none     | none     | 3.96E-05 | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M00515_observed  | xra                  | Hormone-nuclear Receptor Family             | 5G3A3T2CC5   | none        | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | 3.68E-05 | none     | none     |      |
| M01066_observed  | PRDM1,Prdm1          | BetaBetaAlpha-zinc finger Family            | 4AG1GAA4     | 0.00011551  | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00266_observed | PRRX1,Prrx1          | Homeodomain Family                          | 6AATTA6      | 0.0001492   | none        | none        | none        | none     | none     | none     | none     | none     | none     | none     | 8.68E-05 | 3.69E-06 | none     | none     | none     |      |
| UP00136_observed | Prrx2                | Homeodomain Family                          | 6AATTA6      | none        | none        | none        | none        | none     | 0.000171 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M01721_observed  | PURA,Maz             | None                                        | GRGSCAGDG    | none        | none        | none        | none        | none     | 3.15E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| UP00253_observed | RAX,Rax              | Homeodomain Family                          | 6AATTR6      | 0.000042969 | none        | none        | none        | none     | 6.46E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| MA0101_observed  | REL,Rel              | Rel Homology Region Family                  | KGGRMTTTC    | none        | 0.000024777 | none        | 0.0001156   | none     | none     | none     | none     | 9.54E-05 | none     | none     | none     | none     | none     | none     | none     |      |
| MA0107_observed  | RELA                 | Rel Homology Region Family                  | KGGRMTTTC    | none        | 5.4224E-06  | none        | none        | none     | none     | 0.000728 | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| MC00042_observed | RFX5                 | RFX Domain Family                           | GTTCYRKGR    | none        | none        | 3.7E-06     | none        | none     | none     | none     | none     | none     | 2.91E-05 | none     | none     | none     | none     | none     | none     |      |
| hPDI021_observed | RFXANK               | None                                        | RMCAAS       | 7.7389E-07  | none        | none        | none        | none     | 9.02E-08 | none     | none     | 0.000709 | none     | 4.71E-05 | none     | none     | none     | none     | none     |      |
| UP00193_observed | Rhox11               | Homeodomain Family                          | 5T1TGT1A5    | none        | none        | none        | none        | none     | 0.000377 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M01435_observed  | Rhox6                | Homeodomain Family                          | 5T1ATTA6     | none        | none        | none        | 7.3227E-07  | none     | none     | none     | none     | none     | 0.000252 | none     | 1.08E-05 | none     | none     | none     | none     |      |
| M01138_observed  | RORA,Rora            | Cys4 zinc finger of nuclear receptor type   | WVRVTRGGTCA  | none        | none        | 0.000075878 | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     |      |
| M0172            |                      |                                             |              |             |             |             |             |          |          |          |          |          |          |          |          |          |          |          |          |      |

|                  |                                                 |                                        |             |             |             |          |             |          |          |          |          |          |          |          |          |          |          |          |          |      |
|------------------|-------------------------------------------------|----------------------------------------|-------------|-------------|-------------|----------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------|
| UP00199_observed | SIX4,Six4                                       | Homeodomain Family                     | 6GA1ACC5    | none        | 0.000024392 | 7.67E-05 | none        | none     | none     | 2.87E-05 | 0.000386 | none     | none     | none     | none     | none     | 0.000957 | 0.000102 | none     | none |
| UP00388_observed | SIX6,Six6                                       | Homeodomain Family                     | 5TGA2CC5    | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | 3.72E-05 | none     | none |
| M00792_observed  | SMAD1,SMAD2,SMAD3,SMAD4,Smad1,Smad2,Smad3,Smad4 | MH1 Domain Family                      | AGACWBCMY   | 9.4979E-06  | none        | none     | 0.000027361 | none     | none     | none     | none     | 0.000308 | 8.83E-05 | none     | none     | 0.00081  | none     | none     | 1.46E-06 | none |
| MC00043_observed | SMARCA4                                         | None                                   | GATAAGR     | none        | none        | none     | none        | 4.13E-05 | 3.31E-05 | 2.43E-09 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| EN0271_observed  | SMARCB1                                         | None                                   | GVTGASTCA5  | none        | none        | none     | 0.00065851  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| EN0108_observed  | SMARCC2                                         | None                                   | 1C2C4CCC4   | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | 7.52E-05 | none     | none |
| MA0442_observed  | SOX10,Sox10                                     | High Mobility Group (Box) Family       | ACAAMWG     | 0.000041916 | none        | none     | none        | none     | none     | 6.71E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00096_observed | SOX13,Sox13                                     | High Mobility Group (Box) Family       | 5ATTGT6     | none        | none        | none     | 0.000051401 | none     | none     | none     | none     | 0.000313 | none     | none     | none     | none     | none     | none     | none     | none |
| UP00064_observed | Sox18                                           | High Mobility Group (Box) Family       | 7ACAAT4     | none        | none        | none     | 0.00065017  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| MA0143_observed  | SOX2,Sox2                                       | High Mobility Group (Box) Family       | 1C1TT1T2T5  | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | 0.000117 | none     | none |
| UP00023_observed | Sox30                                           | High Mobility Group (Box) Family       | 6ATTGT5     | 0.00051205  | none        | none     | none        | none     | none     | 0.000885 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00401_observed | SOX4,Sox4                                       | High Mobility Group (Box) Family       | 4ACAA1G4    | none        | none        | none     | none        | none     | none     | none     | 0.00033  | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00091_observed | SOX5,Sox5                                       | High Mobility Group (Box) Family       | 5ATTGT6     | none        | none        | none     | none        | none     | none     | 0.000171 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00034_observed | Sox7                                            | High Mobility Group (Box) Family       | 8ACAAT9     | 0.00013777  | none        | none     | none        | none     | none     | none     | 0.000806 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| MA0077_observed  | SOX9,Sox9                                       | High Mobility Group (Box) Family       | RAACAATRG   | 0.00019529  | none        | none     | none        | none     | none     | 3.47E-05 | none     | 0.000267 | none     | none     | none     | none     | none     | none     | none     | none |
| M01783_observed  | SP2,Sp2                                         | BetaBetaAlpha-zinc finger Family       | RGGCRGGWC   | none        | none        | none     | 0.00086421  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00038_observed | Spdef                                           | Ets Domain Family                      | 6C1GGAW4    | none        | none        | none     | 0.000306    | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| MC00047_observed | SP11                                            | Ets Domain Family                      | 8GGAAG3     | 0.000026007 | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | 0.000131 | none     | none |
| MA0084_observed  | SRY                                             | High Mobility Group (Box) Family       | WTTGTTWWM   | none        | none        | 0.000645 | 0.00040785  | none     | none     | 1.38E-09 | none     | 0.000244 | none     | none     | none     | 6.23E-08 | none     | none     | none     | none |
| M00258_observed  | STAT1,Stat1                                     | Stat Protein Family                    | 4AAAAC2     | 9.7898E-13  | none        | none     | none        | none     | none     | 3.64E-10 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M01591_observed  | TAL1,Tal1                                       | Helix-Loop-Helix Family (bHLH)         | 3KA1RAG4    | 0.000012899 | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | 1.69E-06 | none     | none |
| M00993_observed  | TAL1,Tal1                                       | Helix-Loop-Helix Family (bHLH)         | KCCAKCTGCY  | none        | none        | none     | none        | none     | none     | none     | none     | 0.00017  | none     | none     | none     | none     | none     | none     | none     | none |
| MA0386_observed  | TBP,Tbp                                         | None                                   | 8ATA1A1A6   | none        | none        | none     | none        | 0.000149 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00058_observed | TCF3,Tcf3                                       | High Mobility Group (Box) Family       | 6TTTGA6     | 3.922E-09   | none        | none     | none        | none     | none     | none     | 0.000105 | none     | 0.000332 | none     | none     | none     | 1.73E-07 | 8.04E-05 | none     | none |
| MC00050_observed | TCF4                                            | Helix-Loop-Helix Family (bHLH)         | SYTTTGWWSW  | none        | none        | none     | none        | none     | none     | none     | none     | none     | 4.63E-05 | none     | none     | none     | 0.000887 | none     | none     | none |
| UP00054_observed | Tcf7                                            | High Mobility Group (Box) Family       | 6TTTGA6     | 2.5025E-10  | none        | none     | none        | none     | none     | 0.000123 | none     | 0.000316 | none     | 8.56E-05 | none     | none     | 1.06E-05 | none     | none     | none |
| UP00083_observed | TCF7L2,Tcf7l2                                   | High Mobility Group (Box) Family       | 6TTTGA6     | 1.1429E-06  | none        | none     | none        | none     | none     | 0.000182 | none     | none     | none     | none     | none     | none     | 0.000565 | none     | none     | none |
| MA0145_observed  | Tcfcp2l1                                        | CP2 Transcription Factor Domain Family | C2GGCT1G    | none        | 0.00022464  | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M00695_observed  | TEAD2,Tea2                                      | Homeodomain Family                     | CCCKCBC     | none        | none        | none     | none        | none     | none     | none     | none     | 0.000557 | 1.77E-07 | none     | none     | none     | none     | none     | none     | none |
| M01592_observed  | TFCP2L1,Tcfcp2l1                                | Grainyhead                             | 3C2G1T4C2G  | 0.000013853 | 0.00055069  | none     | none        | none     | none     | none     | none     | none     | none     | none     | 1.59E-05 | none     | none     | none     | none     | none |
| MC00007_observed | TFEB                                            | Helix-Loop-Helix Family (bHLH)         | RTCAYGTGAY  | 2.3161E-06  | none        | none     | none        | none     | none     | 4.05E-07 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00122_observed | TGf1,Tgfl                                       | Homeodomain Family                     | 6CTG1CA5    | none        | 0.00072574  | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.000164 | none     | none     | none     | none |
| hPD1163_observed | TGf1,Tgfl                                       | Homeodomain Family                     | GCTGTC      | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.00095  | none     | none     | none     | none |
| hPD1075_observed | THRA                                            | Hormone-nuclear Receptor Family        | GGCYAC      | 7.1728E-07  | none        | none     | none        | none     | none     | 0.000138 | none     | none     | 0.000668 | none     | none     | none     | none     | none     | none     | none |
| M00480_observed  | TOPORS                                          | None                                   | T1C4G4T1G2  | none        | 0.00037237  | none     | none        | 0.000508 | none     | none     | none     | none     | none     | none     | none     | 4.09E-05 | none     | none     | none     | none |
| MA0106_observed  | TP53                                            | Loop-Sheet-Helix Family (bHSH)         | 5CATG1C9    | 0.00046658  | none        | none     | none        | none     | none     | 1.22E-05 | none     | 0.000468 | none     | none     | none     | none     | 8.4E-06  | none     | none     | none |
| M01655_observed  | Trp53                                           | Loop-Sheet-Helix Family (bHSH)         | 3C2G1C4CA5  | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M01458_observed  | Uncx                                            | Homeodomain Family                     | 6ATAAT6     | none        | none        | none     | none        | none     | none     | 0.000267 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00106_observed | VAX2,Vax2                                       | Homeodomain Family                     | 6T1ATTA4    | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 9.2E-05  | none     | none     | none     | none |
| UP00141_observed | Vsx1                                            | Homeodomain Family                     | 6T1ATKA5    | none        | none        | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | 0.000122 | none     | none     | none     | none |
| MA0180_observed  | VSX2,Vsx2                                       | Homeodomain Family                     | KTTAATTRG   | 3.5901E-07  | none        | none     | none        | none     | none     | 4.1E-05  | none     | none     | none     | none     | 1.9E-05  | none     | none     | none     | none     | none |
| MC00008_observed | XBP1,Xbp1                                       | Leucine zipper Family (bZIP)           | WAWGMCACGTC | none        | none        | none     | none        | none     | none     | 0.000275 | none     | 0.000987 | none     | none     | none     | none     | 4.56E-05 | none     | none     | none |
| hPD1013_observed | YEATS4                                          | None                                   | SCCAAA      | none        | 0.00016803  | none     | none        | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| M01075_observed  | ZBTB16,Zbtb16                                   | BetaBetaAlpha-zinc finger Family       | 1T10TAA13   | 0.000648    | 1.0454E-08  | none     | none        | none     | none     | none     | none     | 5.99E-06 | none     | 5.27E-05 | 5.11E-05 | none     | none     | none     | none     | none |
| hPD1024_observed | ZBTB4                                           | BetaBetaAlpha-zinc finger Family       | WGCAAAD5    | 1.8428E-06  | 1.0922E-06  | none     | 0.00069061  | none     | none     | 3.19E-07 | none     | none     | none     | none     | 1.45E-06 | 0.000645 | none     | none     | none     | none |
| UP00037_observed | Zfp105                                          | BetaBetaAlpha-zinc finger Family       | 4A2AA1AA3   | none        | none        | none     | 8.2884E-06  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00082_observed | Zfp187                                          | BetaBetaAlpha-zinc finger Family       | 3TG4AAT2    | none        | 4.5545E-07  | none     | none        | none     | none     | 0.00023  | none     | 0.000341 | none     | 0.000571 | none     | none     | none     | none     | none     | none |
| hPD1100_observed | ZFP3                                            | BetaBetaAlpha-zinc finger Family       | AGYHRTTK    | 0.00023109  | none        | none     | none        | none     | none     | 0.000632 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00033_observed | Zfp410                                          | BetaBetaAlpha-zinc finger Family       | 6ATCCC6     | 0.00067761  | none        | none     | none        | none     | 0.000899 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00095_observed | Zfp691                                          | BetaBetaAlpha-zinc finger Family       | GAGCAC6     | 0.00024626  | 0.00009367  | none     | none        | none     | none     | 2.17E-05 | none     | 9.34E-05 | none     | none     | none     | 8.61E-05 | none     | none     | none     | none |
| UP00057_observed | ZIC2,Zic2                                       | BetaBetaAlpha-zinc finger Family       | 5CC1GGG4    | 4.9387E-07  | none        | none     | none        | 0.000777 | 0.00024  | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| UP00006_observed | Zic3                                            | BetaBetaAlpha-zinc finger Family       | 2Y2CCLGG5   | 3.4703E-06  | none        | none     | none        | none     | none     | none     | none     | 0.000292 | none     | none     | none     | none     | none     | none     | none     | none |
| hPD1063_observed | ZNF124                                          | BetaBetaAlpha-zinc finger Family       | TSMTTKSA    | 0.00038375  | none        | none     | none        | 1.6E-06  | 3.7E-06  | none     | none     | none     | none     | 1.21E-07 | none     | none     | none     | none     | none     | none |
| hPD1069_observed | ZNF131                                          | BetaBetaAlpha-zinc finger Family       | MCAAA5      | 7.8866E-13  | 0.000048065 | none     | none        | none     | none     | 2.24E-11 | none     | 0.000399 | none     | none     | none     | none     | none     | none     | none     | none |
| hPD1146_observed | ZNF192                                          | BetaBetaAlpha-zinc finger Family       | SAAAKCA     | none        | none        | none     | none        | none     | none     | 1.71E-05 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| hPD1134_observed | ZNF207                                          | BetaBetaAlpha-zinc finger Family       | ATAKKA      | none        | none        | none     | none        | none     | 0.000632 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| hPD1110_observed | ZNF250                                          | BetaBetaAlpha-zinc finger Family       | GSAAAKS     | 0.000015277 | 3.7858E-08  | none     | 0.000010302 | none     | none     | 3.36E-09 | none     | none     | none     | 5.86E-08 | none     | none     | none     | none     | none     | none |
| hPD1009_observed | ZNF26                                           | BetaBetaAlpha-zinc finger Family       | SCCAAA      | none        | 0.00034462  | none     | none        | none     | none     | none     | 0.000835 | none     | none     | 1.72E-05 | none     | none     | 4.11E-06 | none     | none     | none |
| EN0053_observed  | ZNF263                                          | BetaBetaAlpha-zinc finger Family       | STSCCCC     | none        | 0.0000041   | none     | none        | none     | none     | none     | none     | 0.000886 | none     | none     | none     | none     | none     | none     | none     | none |
| EN0461_observed  | ZNF274                                          | BetaBetaAlpha-zinc finger Family       | TRTGARTYCT  | none        | none        | none     | none        | none     | none     | 0.000136 | none     | none     | none     | 0.000307 | none     | none     | none     | none     | none     | none |
| hPD1145_observed | ZNF304                                          | BetaBetaAlpha-zinc finger Family       | AGSCCG      | none        | none        | none     | none        | none     | none     | none     | 3.22E-06 | none     | none     | none     | none     | none     | none     | none     | none     | none |
| hPD1062_observed | ZNF326                                          | BetaBetaAlpha-zinc finger Family       | GMYAAAY     | 9.9708E-08  | 1.7043E-09  | none     | 1.4876E-07  | none     | none     | 4.92E-05 | none     | 3.78E-06 | 9.5E-05  | none     | 1.26E-10 | 0.000412 | none     | none     | none     | none |
| hPD1125_observed | ZNF385A                                         | BetaBetaAlpha-zinc finger Family       | CYMWGSMAAWY | none        | 0.00037662  | none     | none        | none     | none     | none     | none     | none     | none     | 1.64E-06 | none     | none     | none     | none     | none     | none |
| hPD1045_observed | ZNF695                                          | BetaBetaAlpha-zinc finger Family       | ARGGTYW     | none        | none        | none     | none        | none     | 0.000106 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| hPD1076_observed | ZNF830                                          | BetaBetaAlpha-zinc finger Family       | TTTCATY     | none        | none        | none     | none        | none     | 0.000497 | none     | none     | none     | none     | none     | none     | none     | none     | none     | none     | none |
| EN0055_observed  | ZZZ3                                            | None                                   | AASGTTCCGG  | none        | none        | none     | none        | none     | 0.00084  | 0.000154 | none     | none     | 1.84E-06 | none     | none     | none     | none     | 4.55E-05 | none     | none |