

| Primer Name                                         | Sequence (5'-3')                    | EcoRI fragment position<br>start | EcoRI fragment position<br>end | Fragment<br>name |
|-----------------------------------------------------|-------------------------------------|----------------------------------|--------------------------------|------------------|
| <u>1. Beta-globin locus (ENm009) Chromosome 11</u>  |                                     |                                  |                                |                  |
| GPF9                                                | AGCACCATGGCATAGATTGAGGAGAAGG        | 5175467                          | 5178450                        | 131              |
| GPF10                                               | TCTACACTCTCAGTCAGCCTATGGAACC        | 5178451                          | 5184169                        | 132              |
| GPF11                                               | CAGGAGGTTGCCTTTGCTGTGGCTTTCGACCC    | 5184170                          | 5185420                        | 133              |
| GPF14                                               | GAAAGCGAGCTTAGTGATACTTGTGGGC        | 5199709                          | 5203478                        | 136              |
| GPF15                                               | GCTCCACACTCCTAGACTCTTACAAAAGC       | 5203479                          | 5209033                        | 137              |
| GPF17                                               | CGAAGTTCCTGGGAATATGCTAGTACAGAAC     | 5210845                          | 5213155                        | 139              |
| GPF18                                               | GAATATTGAGATGATATATGCACAGAACATGCC   | 5213156                          | 5216306                        | 140              |
| GPF19                                               | CATGTCTTTAATGGCCCTAAAACCTATTCCC     | 5216307                          | 5223331                        | 141              |
| GPF20                                               | GAAATGCTGTGACCAATCTGCACACTTGAGG     | 5223332                          | 5225684                        | 142              |
| GPF21                                               | GCCTATCCTTGAAGCTCTGAATCATGGGC       | 5225685                          | 5226239                        | 143              |
|                                                     |                                     | 5229577                          | 5231157                        | 146              |
| GPF22                                               | GGACCATTACAGGGTAGGAAGTATTTATGG      | 5226240                          | 5228881                        | 144              |
| GPF23                                               | GGGCATGTGGAAGCTCTGAGGCTGAGG         | 5228882                          | 5229576                        | 145              |
| GPF25                                               | CAGAGTATCAAAGTTATCTAAAGACAAAGAGAATC | 5231158                          | 5238141                        | 147              |
| GPF27                                               | GATATATAGACCAGTGGAAACAGAACAGAAGCC   | 5238403                          | 5239933                        | 149              |
| GPF30                                               | CAGGTACCACTAACAGCTCCTTCTTTCC        | 5241811                          | 5245997                        | 152              |
| GPF31                                               | CCAGAAGTCTTCACTGACTTAATGACTGCCC     | 5245998                          | 5249755                        | 153              |
| GPF32                                               | GACATCAAGTATTTCTGGATGCTGACCAGAGG    | 5249756                          | 5256287                        | 154              |
| GPF33                                               | GACCTCTGCACTAGGAATGGAAGGTTAGCC      | 5256288                          | 5256810                        | 155              |
| GPF35                                               | TCCTTGCAAAATCATGAATAATGATCAATCGAGG  | 5267231                          | 5270591                        | 157              |
| GPF36                                               | GGTGAGGAAATTGAGCCTTAGACAAGTTAAGC    | 5270592                          | 5283636                        | 158              |
| GPF38                                               | GTACATAGTTAACCTGCTGCTTAGCTTATTTGC   | 5285015                          | 5294021                        | 160              |
| GPF41                                               | GGCTGAGAGTCAAATCGAAGACACAATCC       | 5296504                          | 5298001                        | 163              |
| GPF47                                               | GGCACCATGAAATTTATTCTCATGAGTCC       | 5310461                          | 5317144                        | 169              |
| GPF48                                               | CTGCACATTCAGGATCTATCTCCTACCTACG     | 5317145                          | 5321663                        | 170              |
| GPF55                                               | GACCCATGTCTTCTGTGTGCTGCTAGTTC       | 5329232                          | 5332055                        | 177              |
| GPF56                                               | GAAGGCTACAAGGGGATTCTCAAGTAACTGC     | 5332056                          | 5342910                        | 178              |
| GPF57                                               | GACATTGCTCAAGGTTAGCTAAAGATATG       | 5342911                          | 5357573                        | 179              |
| GPF58                                               | GGTACTGTGTACAGTGACACTTTTCAC         | 5357574                          | 5359095                        | 180              |
| GPF59                                               | GACAACAGAACCCAGGCACAAAGATCAGG       | 5359096                          | 5363369                        | 181              |
| GPF60                                               | CCAATGATATGGTGGCTAAAAAAGTCAATCCC    | 5363370                          | 5366082                        | 182              |
| GPF64                                               | GTGTAATGGGAAATCTATTGAGCCCTCTGTGC    | 5377146                          | 5381758                        | 186              |
| GPF67                                               | CAATAGAGGAAAAAGGAGGTACAGAAGCAC      | 5383964                          | 5387568                        | 189              |
| GPF76                                               | CAGTTATCCAGTCTCAAAAAGTGCAACTCTGTGC  | 5408494                          | 5415082                        | 198              |
| GPF83                                               | GGAGTTTGCTGCATCATCTCAAAAGCAGTG      | 5427609                          | 5431239                        | 205              |
| GPF91                                               | GCACGGGAAAGTACCTGTAGTTACTAGGAAATG   | 5445754                          | 5451773                        | 213              |
| GPF92                                               | GGGTACATGTGACTAGCATACCTATTCAACC     | 5451774                          | 5453800                        | 214              |
| GPF93                                               | GGGGACTTCCTAATTCACCTCTTTGGAGC       | 5453801                          | 5464851                        | 215              |
| GPF95                                               | GTGTCTGTGACTTACTAAGGAGAAAGTCAATTCC  | 5465402                          | 5467840                        | 217              |
| GPF96                                               | GTGCTAGAGATATGACTGGTACTTAATACAACCTG | 5467841                          | 5468314                        | 218              |
| GPF97                                               | GCTGTTTCAATTTGTGCTGAGGGAGACTCTC     | 5468315                          | 5469996                        | 219              |
| GPF100                                              | CAAGACCCTGTTATGCTATTTACAGCTCC       | 5474899                          | 5484552                        | 222              |
| GPF101                                              | CCATTGAGACCCACATTAGCTACTTCTCTG      | 5484553                          | 5488089                        | 223              |
| GPF102                                              | GGGATATACAGTGGAGATGGCAGCAGCTGC      | 5488090                          | 5491678                        | 224              |
| GPF103                                              | GATGAGTGAGGGTGATGCTAGGGCTTAGGATGC   | 5491679                          | 5506192                        | 225              |
| GPF104                                              | CATAGGACACAACAGTGCCTGTAACACAG       | 5506193                          | 5510183                        | 226              |
| GPF105                                              | CCTTCAGTGTGCTCAATGTGGAACAAATCC      | 5510184                          | 5511086                        | 227              |
| GPF108                                              | GTGGACAAGATGAGGTCAAGTATGCCAGC       | 5518465                          | 5523217                        | 230              |
| GPF111                                              | CCTAACATCTACCTTTAGTAACTAGCAGAGCC    | 5525108                          | 5531048                        | 233              |
| GPF115                                              | GGTGATTCATGAGCCTGGAAGTGGTCCAACAG    | 5532780                          | 5535890                        | 237              |
| <u>2. Gene desert region (ENr313) Chromosome 16</u> |                                     |                                  |                                |                  |
| GD2                                                 | AGCTTCACCTCTCAAACCTACAGGACTGG       | 60845578                         | 60849115                       | 2                |
| GD3                                                 | GTATACTCAGTTGAGCAGCCCATGACAC        | 60849116                         | 60851238                       | 3                |
| GD5                                                 | GTTCTCTGTCTTATAATTATGCTACAAGAATGAGG | 60851792                         | 60855935                       | 5                |
| GD6                                                 | GTTTAAGACCCTCAGTATACTAGTCATAGAAGG   | 60855936                         | 60858531                       | 6                |
| GD7                                                 | GATGCCATTTCTTATCTTGTCTTGGCAGGTC     | 60858532                         | 60866968                       | 7                |
| GD8                                                 | GCAGCAAAGCAAACCAAAGAACAACAGG        | 60866969                         | 60873873                       | 8                |
| GD9                                                 | GTGTCATGGAATCAAAGGTGAGTGAGGG        | 60873874                         | 60876657                       | 9                |
| GD10                                                | TATAAAGCTGCAAGGGAGGGTTGACTG         | 60876658                         | 60877689                       | 10               |
| GD12                                                | CGAGATGATGCTAACCTCTATGAACCTC        | 60880027                         | 60880407                       | 12               |
| GD17                                                | GGCTGGCTGAGGTCAATCATGCAATCTT        | 60894707                         | 60905483                       | 17               |
| GD18                                                | CCATTCCATCATACCCCTCATCTCACTGCC      | 60905484                         | 60908417                       | 18               |