**Appendix 1:** Multiplex-PCR conditions for NGS target enrichment (Plex A to F).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Plexgroup | Annealingtemp. | Gene(refSeq) | Exon | Primers 5' - 3'including M13-tags\* | Size(bp) | 10× PrimerMix (ng/µl) |
| **A** | 61°C | ***RHO***(NG\_009115.1) | 1 | F: | **CGACGGCCAGT**GCTCAGGCCTTCGCAGCAT | 516 | 4 |
| R: | **CAGCTATGACC**AGCCCGGGACTCTCCCAGA |
| 2 | F: | **CGACGGCCAGT**GGGGAGTGCACCCTCCTTA | 392 | 2 |
| R: | **CAGCTATGACC**ACCCCTACCCTGAGTGGGC |
| 3 | F: | **GACGGCCAGT**TGTGAAGCCCCAGAAAGGGC | 359 | 2 |
| R: | **CAGCTATGACC**CTCCAGGGAGCAGGAGCCG |
| 4 | F: | **CGACGGCCAGT**TCACGGCTCTGAGGGTCCA | 420 | 4 |
| R: | **CAGCTATGACC**AGCTTGTCCTTGGCAGGCA |
| 5 | F: | **GACGGCCAGT**ACGTGCCAGTTCCAAGCACA | 260 | 4 |
| R: | **AGCTATGACC**TGTGGCTGGGGGAAGGTGTA |
| ***NR2E3***(NG\_009113.1) | 2 | F: | **CGACGGCCAGT**GTCACGCGTGGGTTCGTTCA | 345 | 2 |
| R: | **CAGCTATGACC**ACCCCCTCACCCCTCCAGAA |
| **B** | 61°C | ***PRPF31***(NG\_009759.1) | 1–2 | F: | **CGACGGCCAGT**AGGAGGGACTTTGTCGGGG | 470 | 2 |
| R: | **CAGCTATGACC**GATGGGGAGGGGCACAGAGT |
| 3 | F: | **CGACGGCCAGT**ACATCAGCCTGTCCCTGGT | 347 | 2 |
| R: | **CAGCTATGACC**CTTGGGCTTAGGGGCAGGA |
| 4 | F: | **CGACGGCCAGT**CTGTATGCTGGTGCCCGTG | 381 | 2 |
| R: | **CAGCTATGACC**ACTGAGCCCTCGTCCACTC |
| 5 | F: | **CGACGGCCAGT**GCCTTCCTGAGTTCCCGAGC | 348 | 4 |
| R: | **CAGCTATGACC**CCCAGCCTCCTGGATCTCCC |
| 7 | F: | **CGACGGCCAGT**TCGAGCCCCCAGGCAGATT | 356 | 2 |
| R: | **CAGCTATGACC**CTGGGCCAGATGGTGGGTG |
| 8 | F: | **CGACGGCCAGT**GGACCCCAGGTAGAGCCAG | 283 | 2 |
| R: | **CAGCTATGACC**TCTCCCTGCAGAGACACCC |
| 9–10 | F: | **CGACGGCCAGT**GCTCAGAGGAGGCCTGGGT | 435 | 6 |
| R: | **CAGCTATGACC**GGCTGGCTGTGGGGTTGAG |
| 11–12 | F: | **CGACGGCCAGT**TCGCTGAACTGCAGGGCG | 446 | 6 |
| R: | **CAGCTATGACC**TCTTCACAGGGGCAGAGGG |
| 13 | F: | **CGACGGCCAGT**AGACAGGGCAACTCCAGGG | 423 | 2 |
| R: | **CAGCTATGACC**CTGGGCAGTCCCAGCAATG |
| **C** | 61°C | ***KLHL7***(NG\_016983.1) | 5 | F: | **CGACGGCCAGT**GCTTCATCTTGAATGTATACTTGG | 342 | 2 |
| R: | **CAGCTATGACC**TCCAAACATGAGTTTTAAGAAACC |
| ***PRPF3***(NG\_008245.1) | 10 | F: | **CGACGGCCAGT**TGGGATTTTCAAGATAGGAGTTA | 418 | 2 |
| R: | **CAGCTATGACC**GAGAAAGGCATTGAAGATCAG |
| ***PRPF8***(NG\_009118.1) | 42 | F: | **CGACGGCCAGT**ATCGCCCTTTGCACTTGGG | 348 | 4 |
| R: | **CAGCTATGACC**CTGAATGTCAGCGGCCTGT |
| ***PRPH2***(NG\_009176.1) | 1a | F: | **CGACGGCCAGT**CTGGGCTCGTTAAGGTTTGG | 365 | 2 |
| R: | **CAGCTATGACC**GGCATACTTGGCTGGGTCC |
| 1b | F: | **CGACGGCCAGT**CAACTCGCTGGCTGGGAAG | 441 | 2 |
| R: | **CAGCTATGACC**TGAGCCTCAGTGTCCCCAA |
| 2 | F: | **CGACGGCCAGT**AGGTTTCCAGAGGCAGGGG | 413 | 2 |
| R: | **CAGCTATGACC**ACCCAAATGGGACCGGAGG |
| 3 | F: | **CGACGGCCAGT**GGTCCAGCTCCCAGCGATT | 404 | 2 |
| R: | **CAGCTATGACC**GATGGTGCCCTCCTTGGGA |
| **D** | 61°C | ***IMPDH1***(NG\_009194.1) | 2–3 | F: | **CGACGGCCAGT**GAGCGGAGGAGAGGGAACA | 379 | 2 |
| R: | **CAGCTATGACC**TTCCCCTACAGACCCCAGC |
| 5 | F: | **CGACGGCCAGT**GTGCACGAGGTGGGAACTG | 327 | 2 |
| R: | **CAGCTATGACC**CATCTCTCCATGCCCTGCC |
| 6 | F: | **CGACGGCCAGT**GTTGCCAGTGGTCGCTTG | 422 | 2 |
| R: | **CAGCTATGACC**CCTGTGTGCCCTGGAGT |
| 7 | F: | **CGACGGCCAGT**CAGGGCACACAGGAACTGAC | 311 | 2 |
| R: | **CAGCTATGACC**ACTGAGAGGAAGGACACGCA |
| 8 | F: | **CGACGGCCAGT**GGCCAGCCTGGACATCATCC | 355 | 2 |
| R: | **CAGCTATGACC**TCTGAGGCCCCAGCGTGA |
| 14 | F: | **CGACGGCCAGT**GTGCTGGGGATTGGGCAGG | 342 | 2 |
| R: | **CAGCTATGACC**GACTGGCTGCCATCTGGGG |
| **E** | 61°C | ***PRPF8***(NG\_009118.1) | 41 | F: | **CGACGGCCAGT**TGGGCTCCTTGGGAGGAAG | 394 | 2 |
| R: | **CAGCTATGACC**CCCAAGTGCAAAGGGCGAT |
| ***CRX***(NG\_008605.1) | 1 | F: | **CGACGGCCAGT**GGAGAAGGAGGCAGGATTTGA | 274 | 2 |
| R: | **CAGCTATGACC**TGCCAAGAGAAACGACTGTACT |
| 2 | F: | **CGACGGCCAGT**TGGCAACCAGGATGGAATTCT | 419 | 2 |
| R: | **CAGCTATGACC**GGATGGTGGGGAGAGGGATTA |
| 3a | F: | **CGACGGCCAGT**GGCCTCTTCCCCACTTACC | 334 | 2 |
| R: | **CAGCTATGACC**CAGGCAAAGGGGACTCTGA |
| 3b | F: | **CGACGGCCAGT**GTGGCCACTGTGTCCATCTG | 488 | 2 |
| R: | **CAGCTATGACC**GAGGCCCGATGGAGAGAGATG |
| ***NRL***(NG\_011697.1) | 1a | F: | **CGACGGCCAGT**GTGGCCTCCATGTGCTCCAGA | 325 | 2 |
| R: | **CAGCTATGACC**TGCAGGGTAGCCAGCCAGTA |
| 1b | F: | **CGACGGCCAGT**GCCTCCTTCACCCACCTTCAG | 327 | 2 |
| R: | **CAGCTATGACC**CCTCTCTTGGGCAGTCCTCCTTC |
| ***PRPF31***(NG\_009759.1) | 6 | F: | **CGACGGCCAGT**CAGGCGGGAGATCCAGGAGG | 331 | 2 |
| R: | **CAGCTATGACC**GGTGCCAAAGCCCCCATTCT |
| ***RP1***(NG\_009840.1) | 4 | F: | **CGACGGCCAGT**TGCTCAGTGTGGTTTAACAAA | 446 | 1 |
| R: | **CAGCTATGACC**AGGTGCTCCTAAGCTTATTTT |
| **F** | 61°C | ***IMPDH1***(NG\_009194.1) | 9 | F: | **CGACGGCCAGT**CTGGTGCCTGTGACCAGGG | 308 | 6 |
| R: | **CAGCTATGACC**CCCCAGGGCTCAGTCTGGT |
| 10 | F: | **CGACGGCCAGT**TCACCTAGTGGCTGACTGG | 455 | 2 |
| R: | **CAGCTATGACC**GGAGGGGCACAGGCTTAAT |
| 11 | F: | **CGACGGCCAGT**AGGCTCTCCCTCCTGCCTT | 298 | 2 |
| R: | **CAGCTATGACC**CATGCTCCCTGCCACCCAT |
| 12 | F: | **CGACGGCCAGT**CAGGCAGGGGCATCCCATC | 292 | 2 |
| R: | **CAGCTATGACC**GTCACCCCGGAGCCTACCA |
| 13 | F: | **CGACGGCCAGT**GCCCCGGAGTTGCTGTTGA | 339 | 2 |
| R: | **CAGCTATGACC**GCCAGCAGGGAGCCCATC |
| 15 | F: | **CGACGGCCAGT**GGGACCTTCCTGGGCGGTA | 331 | 2 |
| R: | **CAGCTATGACC**GGGCCACCAAGGGTGGAGA |
| 16 | F: | **CGACGGCCAGT**TGAGACTGGGGGTGGCTCC | 350 | 2 |
| R: | **CAGCTATGACC**GCCCCCGAAGAGAGGGTGA |
| \*The colors **blue** and **orange** represent the M13-tag sequences forward and reverse, respectively |