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| **R-GECO 1 and 1.2** | Mutation |  | Primer Sequence 5’->3’ (Forward- F), (Reverse-R) |
| I78L | F  R | CCCGGCGCCTACATCGTCGACCTTAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTAAGGTCGACGATGTAGGCGCCGGG |
| I78T | F  R | CCCGGCGCCTACATCGTCGACACAAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTTGTGTCGACGATGTAGGCGCCGGG |
| I78N | F  R | CCCGGCGCCTACATCGTCGACAACAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTGTTGTCGACGATGTAGGCGCCGGG |
| I78H | F  R | CCCGGCGCCTACATCGTCGACCATAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTATGGTCGACGATGTAGGCGCCGGG |
| I78A | F  R | CCCGGCGCCTACATCGTCGACGCTAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTAGCGTCGACGATGTAGGCGCCGGG |
| I78Y | F  R | CCCGGCGCCTACATCGTCGACTATAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTATAGTCGACGATGTAGGCGCCGGG |
| I78Q | F  R | CCCGGCGCCTACATCGTCGACCAAAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTTTGGTCGACGATGTAGGCGCCGGG |
| I78PRO | F  R | CCCGGCGCCTACATCGTCGACCCTAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTAGGGTCGACGATGTAGGCGCCGGG |
| I78Val | F  R | CCCGGCGCCTACATCGTCGACGTTAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTAACGTCGACGATGTAGGCGCCGGG |
| I78C | F  R | CCCGGCGCCTACATCGTCGACTGTAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTACAGTCGACGATGTAGGCGCCGGG |
| I78K | F  R | CCCGGCGCCTACATCGTCGACAAAAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTTTTGTCGACGATGTAGGCGCCGGG |
| I78G | F  R | CCCGGCGCCTACATCGTCGACGGTAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTACCGTCGACGATGTAGGCGCCGGG |
| I78F | F  R | CCCGGCGCCTACATCGTCGACTTTAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTAAAGTCGACGATGTAGGCGCCGGG |
| I78D | F  R | CCCGGCGCCTACATCGTCGACGATAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTATCGTCGACGATGTAGGCGCCGGG |
| I78E | F  R | CCCGGCGCCTACATCGTCGACGAAAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTTTCGTCGACGATGTAGGCGCCGGG |
| I78S | F  R | CCCGGCGCCTACATCGTCGACTCTAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTAGAGTCGACGATGTAGGCGCCGGG |
| I78R | F  R | CCCGGCGCCTACATCGTCGACCGTAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTACGGTCGACGATGTAGGCGCCGGG |
| I78W | F  R | CCCGGCGCCTACATCGTCGACTGGAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTCCAGTCGACGATGTAGGCGCCGGG |
| **mRuby3** | H200I | F  R | CCCGGTGTCCATGCCGTTGATATCCGCCTGGAAAGGATCGAGGAG  CTCCTCGATCCTTTCCAGGCGGATATCAACGGCATGGACACCGGG |
| H200T | F  R | CCCGGTGTCCATGCCGTTGATACACGCCTGGAAAGGATCGAGGAG  CTCCTCGATCCTTTCCAGGCGTGTATCAACGGCATGGACACCGGG |
| **RCaMP1h**  **(mRuby)** | H115T | F  R | CCTGCCATTCATTACGTCAGCACACGTCTGGAGCGCCTGGAGGAG  CTCCTCCAGGCGCTCCAGACGTGTGCTGACGTAATGAATGGCAGG |
| **jRCaMP1a**  **(mRuby)** | H134I | F  R | CCTGCCATTCATAGCGTCAGCATTCGTCTGGAGCGCCTGGAGGAG  CTCCTCCAGGCGCTCCAGACGAATGCTGACGCTATGAATGGCAGG |
| H134T | F  R | CCTGCCATTCATAGCGTCAGCACTCGTCTGGAGCGCCTGGAGGAG  CTCCTCCAGGCGCTCCAGACGAGTGCTGACGCTATGAATGGCAGG |
| **jRCaMP1b**  **(mRuby)** | H134I | F  R | CCTGCCATTCATTACGTCAGCATCCGTCTGGAGCGCCTGGAGGAG  CTCCTCCAGGCGCTCCAGACGGATGCTGACGTAATGAATGGCAGG |
| H134T | F  R | CCTGCCATTCATTACGTCAGCACACGTCTGGAGCGCCTGGAGGAG  CTCCTCCAGGCGCTCCAGACGTGTGCTGACGTAATGAATGGCAGG |
| H134K | F  R | CCTGCCATTCATTACGTCAGCAAGCGTCTGGAGCGCCTGGAGGAG  CTCCTCCAGGCGCTCCAGACGCTTGCTGACGTAATGAATGGCAGG |
| H134R | F  R | CCTGCCATTCATTACGTCAGCCGTCGTCTGGAGCGCCTGGAGGAG  CTCCTCCAGGCGCTCCAGACGACGGCTGACGTAATGAATGGCAGG |
| **jRGECOa**  **(mApple)** | I131T | F  R | CCCGGCGCCTACATCGTGGACACCAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTGGTGTCCACGATGTAGGCGCCGGG |
| I131H | F  R | CCCGGCGCCTACATCGTGGACCACAAGTTGGACATCGTGTCCCAC  GTGGGACACGATGTCCAACTTGTGGTCCACGATGTAGGCGCCGGG |
| I131R | F  R | CCCGGCGCCTACATCGTGGACAGGAAGTTGGACATCGTGTCCCAC GTGGGACACGATGTCCAACTTCCTGTCCACGATGTAGGCGCCGGG |