Table S1: sequence and source of genetic parts

|  |  |  |
| --- | --- | --- |
| Name | Sequence | Source |
| P1 | tgttcacattcgaaccgtctctgctttgacatcttatgattctcgactgtaaagtcgtggcca | 1 |
| P2 | tgttcacattcgaaccgtctctgctttgacaacatgctgtgcggtgttgtaaagtcgtggccaggagaatacgacag | 1 |
| RBS1 | caacgctgcacccgaatcacattacggactattatt | 2 |
| RBS2 | gcaattgcaagaaggaggatattg | 2 |
| T7-eRNAPN (d5-19) | MNTINIAKNDFSDIELAAIPLNTLADHYGERSARGQLALEHESYEMGEARFRKMFECQLKAGKVADNAAAKPLITTLLPKMIARINDWFEEVKAKRGRRPTAFKFLKEIKPEAVAYITIKTSLACLTSADNTTVQAVASAIGRTIEDEARFGRIRDLEAKHFKKNVEEQLNKRVGHVYK | 3 |
| ABI | VPLYGFTSICGRRPEMEAAVSTIPRFLQSSSGSMLDGRFDPQSAAHFFGVYDGHGGSQVANYCRERMHLALAEEIAKEKPMLCDGDTWLEKWKKALFNSFLRVDSEIESVAPETVGSTSVVAVVFPSHIFVANCGDSRAVLCRGKTALPLSVDHKPDREDEAARIEAAGGKVIQWNGARVFGVLAMSRSIGDRYLKPSIIPDPEVTAVKRVKEDDCLILASDGVWDVMTDEEACEMARKRILLWHKKNAVAGDASLLADERRKEGKDPAAMSAAEYLSKLAIQRGSKDNISVVVVDLK (AT4G26080.1, V126-K423, D143A) | 3, 4 |
| ABI-CP234  (circularly permutated) | SVAPETVGSTSVVAVVFPSHIFVANCGDSRAVLCRGKTALPLSVDHKPDREDEAARIEAAGGKVIQWNGARVFGVLAMSRSIGDRYLKPSIIPDPEVTAVKRVKEDDCLILASDGVWDVMTDEEACEMARKRILLWHKKNAVAGDASLLADERRKEGKDPAAMSAAEYLSKLAIQRGSKDNISVVVVDLKGGSGSGSSVPLYGFTSICGRRPEMEAAVSTIPRFLQSSSGSMLDGRFDPQSAAHFFGVYDGHGGSQVANYCRERMHLALAEEIAKEKPMLCDGDTWLEKWKKALFNSFLRVDSEIE  (S234 -K423-linker-V126-E233, D143A) | 3 |
| Terminator 1 | attcaagacccccgcaccgaaaggtccgggggttttttttacta | 5 |
| PYR1MANDI | MPSELTPEERSELKNSIAEFHTYQLDPGSCSSLHAQRIHAPPELVWSIVRRFDKPQTHRHFIKSCSVEQNFEMRVGCTRDIIVISGLPANTSTERLDILDDERRVTGASIIGGEHRLTNYKGVTTVHRFEKENRIWTVVLESYVVDMPEGNSEDDTRMLADTVVKLNLQKLATVAEAMA | 6 |
| T7-RNAPC | KAFMQVVEADMLSKGLLGGEAWSSWHKEDSIHVGVRCIEMLIESTGMVSLHRQNAGVVGQDSETIELAPEYAEAIATRAGALAGISPMFQPCVVPPKPWTGITGGGYWANGRRPLALVRTHSKKALMRYEDVYMPEVYKAINIAQNTAWKINKKVLAVANVITKWKHCPVEDIPAIEREELPMKPEDIDMNPEALTAWKRAAAAVYRKDKARKSRRISLEFMLEQANKFANHKAIWFPYNMDWRGRVYAVSMFNPQGNDMTKGLLTLAKGKPIGKEGYYWLKIHGANCAGVDKVPFPERIKFIEENHENIMACAKSPLENTWWAEQDSPFCFLAFCFEYAGVQHHGLSYNCSLPLAFDGSCSGIQHFSAMLRDEVGGRAVNLLPSETVQDIYGIVAKKVNEILQADAINGTDNEVVTVTDENTGEISEKVKLGTKALAGQWLAYGVTRSVTKRSVMTLAYGSKEFGFRQQVLEDTIQPAIDSGKGLMFTQPNQAAGYMAKLIWESVSVTVVAAVEAMNWLKSAAKLLAAEVKDKKTGEILRKRCAVHWVTPDGFPVWQEYKKPIQTRLNLMFLGQFRLQPTINTNKDSEIDAHKQESGIAPNFVHSQDGSHLRKTVVWAHEKYGIESFALIHDSFGTIPADAANLFKAVRETMVDTYESCDVLADFYDQFADQLHESQLDKMPALPAKGNLNLRDILESDFAFA\* | 3 |
| Terminator 2 | ctagcataaccccttggggcctctaaacgggtcttgaggggttttttg | pET23a |
| GFP (sfGFP) | MRKGEELFTGVVPILVELDGDVNGHKFSVRGEGEGDATNGKLTLKFICTTGKLPVPWPTLVTTLTYGVQCFARYPDHMKQHDFFKSAMPEGYVQERTISFKDDGTYKTRAEVKFEGDTLVNRIELKGIDFKEDGNILGHKLEYNFNSHNVYITADKQKNGIKANFKIRHNVEDGSVQLADHYQQNTPIGDGPVLLPDNHYLSTQSVLSKDPNEKRDHMVLLEFVTAAGITHGMDELYK | 1 |
| T7 pro\_RBS  (for sfGFP) | taatacgactcactatagggagaccacaacggtttccctctaCaaataattttgtttaactttaagaaggagatatacat | pET23a |
| GFP10 | MDLPDDHYLSTQTILSKDLN | 7 |
| GFP11 | EKRDHMVLLEYVTAAGITDAS | 7 |
| GFP1-9 | MRKGEELFTGIVPILVELDGDVNGHKFFVRGEGEGDATIGKLSLKFICTTGKLPVPWPTLVTTLTYGVQCFSRYPDHMKRHDFFKSAMPEGYVQERTIYFKDDGTYKTRAEVKFEGDTLVNRIELKGIDFKEDGNILGHKLEYNFNSHKVYITADKQNNGIKANFTIRHNVEDGSVQLADHYQQNTPIGDGPVLLP | 7 |
| T7\_lacO\_RBS  (for GFP1-9) | taatacgactcactataggggaattgtgagcggataacaattcccctctagaaataattttgtttaactttaagaaggagatatacc | pET28a |
| J23109 | tttacagctagctcagtcctagggactgtgctagct | Biobrick |
| J23105 | tttacggctagctcagtcctaggtactatgctagct | Biobrick |
| mcherry | MVSKGEEDNMAIIKEFMRFKVHMEGSVNGHEFEIEGEGEGRPYEGTQTAKLKVTKGGPLPFAWDILSPQFMYGSKAYVKHPADIPDYLKLSFPEGFKWERVMNFEDGGVVTVTQDSSLQDGEFIYKVKLRGTNFPSDGPVMQKKTMGWEASSERMYPEDGALKGEIKQRLKLKDGGHYDAEVKTTYKAKKPVQLPGAYNVNIKLDITSHNEDYTIVEQYERAEGRHSTGGMDELYK |  |

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