

Supplemental text 1

pD454-PIPI (7096 bases, circular construct):

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ctggggcggttctgataacgagtaatcgtaaatccgcaataacgtaaaacccgcttcggcggttttttatgggggagtttagggaaagagcattgtcagaatatttaagggcgcc
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*upper cases: open reading frame of expression construct.

*upper cases + **boldened**: coding sequence for PIP1.

pUC19 (2686 bases, circular construct):

gacgaaagggcctcgtgatacgccctatTTTTataggTtaatgtcatgataaatggtttcttagacgtcaggtggcacttttcggggaatgtgcgcggaacccctatttgttttttcta
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gcgcgttggccgattcattaatgcagctggcacgacaggttcccgactggaaagcgggcagtgga**GCGCAACGCAATTAATGTGAGTTAGCTCAC**
TCATTAGGCACCCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAA
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gttttaccgtcatcaccgaaacgcgcga

*upper cases + **boldened**: reference template for polymerase error rate measurement.

atto633_RP (17 bases):
/5ATTO633N/ATTCACTGTCACGGCGC

extension_template (22 bases):
TGATGGCGCCGTGACAGTGAAT

Unique molecule indexed (UMI) primers for single-molecule polymerase error measurement:

Name	Sequence	Purification	Length
YX_F00	ACACTCTTTCCCTACACGACGCTCTTCCGATCT CTGT NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	72
YX_F01	ACACTCTTTCCCTACACGACGCTCTTCCGATCT ACGT NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	73
YX_F02	ACACTCTTTCCCTACACGACGCTCTTCCGATCT ATTGAT NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	74
YX_F03	ACACTCTTTCCCTACACGACGCTCTTCCGATCT AGACTGG NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	75
YX_F04	ACACTCTTTCCCTACACGACGCTCTTCCGATCT CAGTCATC NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	76
YX_F05	ACACTCTTTCCCTACACGACGCTCTTCCGATCT CGTCCACTG NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	77
YX_F06	ACACTCTTTCCCTACACGACGCTCTTCCGATCT TACTGCATAC NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	78
YX_F07	ACACTCTTTCCCTACACGACGCTCTTCCGATCT TCTACTGAGT NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	79
YX_F08	ACACTCTTTCCCTACACGACGCTCTTCCGATCT TGCAGCTCTAGT NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	80
YX_F09	ACACTCTTTCCCTACACGACGCTCTTCCGATCT GTCCGGCAATCGG NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	81
YX_F10	ACACTCTTTCCCTACACGACGCTCTTCCGATCT GAAGTCAGCGTACG NNNNNNNNNNNNNNNNNgcgcaacgcaattaatgtga	PAGE	82
YX_R00	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT GGT NNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	76
YX_R01	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT TCAGT NNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	77
YX_R02	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT TGCCTG NNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	78
YX_R03	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT TAGAGCA NNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	79
YX_R04	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT CTAGCTGC NNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	80
YX_R05	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT CATCCTCGA NNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	81
YX_R06	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT GTGCACTGT CNNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	82
YX_R07	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT GCGTCGATAGT NNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	83
YX_R08	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT ATGCGACACTC ANNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	84
YX_R09	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT AGTACAGCTTAGA NNNNNNNNNNNNNNNNNgcgaaagggggatgtgc	PAGE	85
YX_R10	CGTGATGTGACTGGAGTTCAGACGTGTGCTCTTCCGATCT ACTAACTAGAGTCG NNNNNNNNNNNNNNNNNacaaaaaaaatatatc	PAGE	86