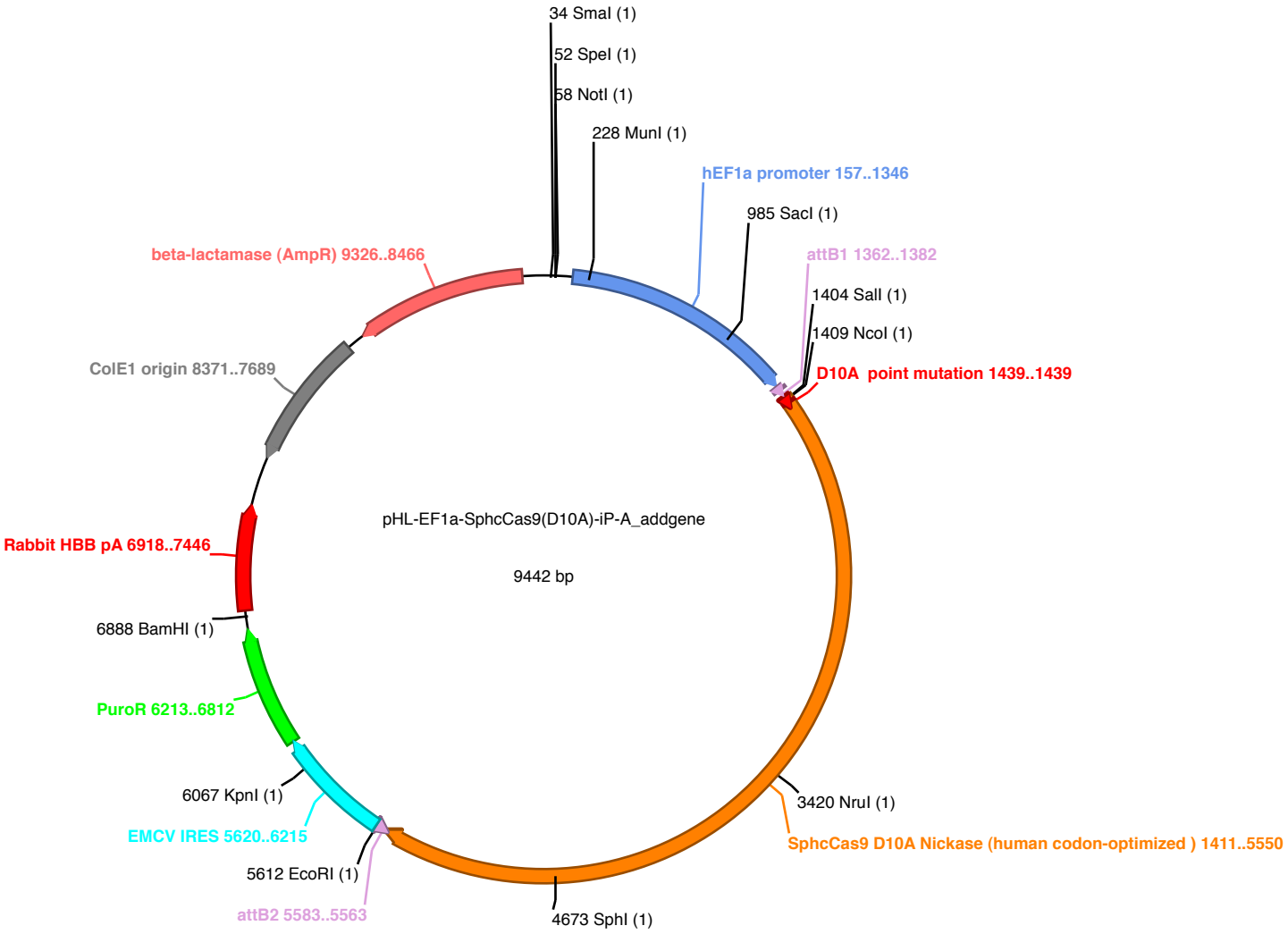
34 SmaI (1)
52 SpeI (1)
58 NotI (1)
228 MunI (1)
hEF1a promoter 157..1346
985 SacI (1)
attB1 1362..1382
1404 SalI (1)
1409 NcoI (1)
D10A point mutation 1439..1439
beta-lactamase (AmpR) 9326..8466
ColE1 origin 8371..7689
pHL-EF1a-SphcCas9(D10A)-iP-A_addgene
9442 bp
Rabbit HBB pA 6918..7446
6888 BamHI (1)
PuroR 6213..6812
6067 KpnI (1)
EMCV IRES 5620..6215
5612 EcoRI (1)
attB2 5583..5563
4673 SphI (1)
3420 NruI (1)
SphcCas9 D10A Nickase (human codon-optimized) 1411..5550