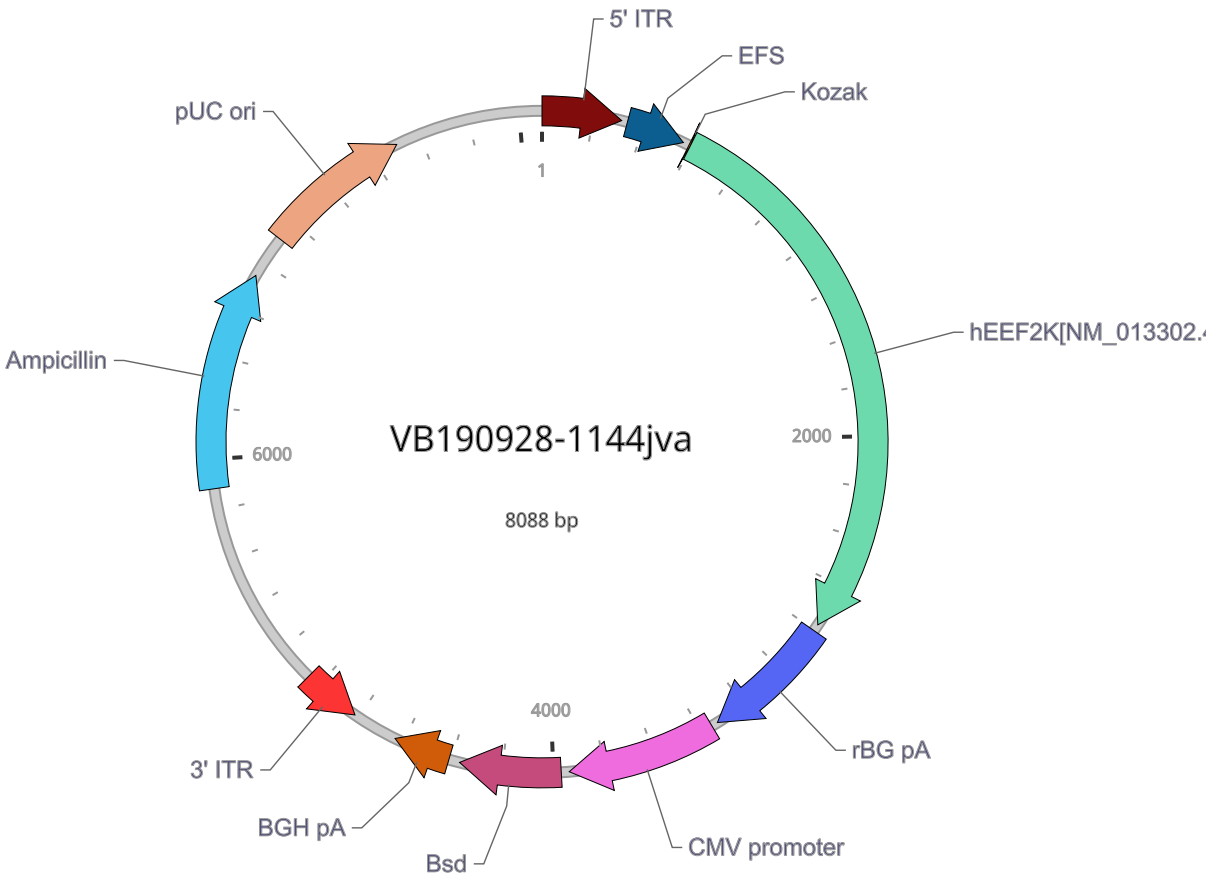
Vector Summary

Vector ID	VB190928-1144jva
Vector Name	pPB[Exp]-Bsd-EFS>hEEF2K[NM_013302.4]*
Date Created (Pacific Time)	2019-09-28
Vector Size	8088 bp
Vector Type	Mammalian Gene Expression PiggyBac Vector
Inserted Promoter	EFS
Inserted ORF	hEEF2K[NM_013302.4]*
Inserted Marker	Bsd
Plasmid Copy Number	High
Antibiotic Resistance	Ampicillin
Cloning Host	VB UltraStable (or alternative strain)

Vector Map



Vector Components

Name	Position	Size (bp)	Type	Description	Application notes
5' ITR	1-313	313	ITR	piggyBac 5' inverted terminal repeat	Recognized by PBase transposase; DNA flanked by piggyBac 5' ITR and 3' ITR can be transposed by PBase into TTAA sites.
EFS	337-568	232	Promoter	Human eukaryotic translation elongation factor 1 α1 short form	Strong promoter.
Kozak	593-598	6	Miscellaneous	Kozak translation initiation sequence	Facilitates translation initiation of ATG start codon downstream of the Kozak sequence.
hEEF2K[NM_013302.4]*	599-2776	2178	ORF	*None*	*None*
rBG pA	2804-3325	522	PolyA_signal	Rabbit beta-globin polyadenylation signal	Allows transcription termination and polyadenylation of mRNA transcribed by Pol II RNA polymerase.
CMV promoter	3351-3938	588	Promoter	Human cytomegalovirus immediate early enhancer/promoter	Strong promoter; may have variable strength in some cell types.
Bsd	3970-4368	399	ORF	Blasticidin resistance gene	Allows cells to be resistant to blasticidin.
BGH pA	4412-4636	225	PolyA_signal	Bovine growth hormone polyadenylation signal	Allows transcription termination and polyadenylation of mRNA transcribed by Pol II RNA polymerase.
3' ITR	complement (4818-5052)	235	ITR	piggyBac 3' inverted terminal repeat	Recognized by PBase transposase; DNA flanked by piggyBac 5' ITR and 3' ITR can be transposed by PBase into TTAA sites.
Ampicillin	5884-6744	861	ORF	Ampicillin resistance gene	Allows E. coli to be resistant to ampicillin.

Name	Position	Size (bp)	Type	Description	Application notes
pUC ori	6915-7503	589	Rep_origin	pUC origin of replication	Facilitates plasmid replication in E. coli; regulates high-copy plasmid number (500-700).

Note: Components added by user are listed in **bold red** text.

Vector Sequence

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   1 TTAACCCTAG AAAGATAGTC TGCGTAAAAT TGACGCATGC ATTCTTGAAA TATTGCTCTC TCTTTCTAAA TAGCGCGAA
 101 CATCTCAGTC GCCGCTTGGA GCTCCCGTGA GGCGTGCTTG TCAATGCGGT AAGTGTCACT GATTTTGAAC TATAACGAC
 201 TGATTATCTT TTACGTGACT TTTAAGATTT AACTCATACG ATAATTATAT TGTTATTTCA TGTTCTACTT ACGTGATAA
 301 TGTTATAGAT ATCATCAACT TTGTATAGAA AAGTTGGGCT CCGGTGCCCG TCAGTGGGCA GAGCGCACAT CGCCCACAC
 401 GGGTCGGCAA TTGATCCGGT GCCTAGAGAA GGTGGCGCGG GGTAAACTGG GAAAGTGATG TCGTGTACTG GCTCCGCCT
 501 ACCGTATATA AGTGCAGTAG TCGCCGTGAA CGTTCTTTTT CGCAACGGGT TTGCCGCCAG AACACAGGCA AGTTTGTAC
 601 GGCAGACGAA GATCTCATCT TCCGCCTGGA AGGCGTTGAT GGCGGCCAGT CCCCCCGAGC TGGCCATGAT GGTGATTCT
 701 GAAGGTTACT TCATCTGCCC CATCACGGAT GACCCAAGCT CGAACCAGAA TGTCAATTCC AAGGTTAATA AGTACTACA
 801 GGTATAGCTC CAGCGGGTCC CCGGCAAACT CCTTCCACTT CAAGGAAGCC TGGAAGCACG CAATCCAGAA GGCCAAGCA
 901 GTTCCACCTG GAAGATATTG CCACCGAACG TGCTACTCGA CACAGGTACA ACGCCGTCAC CGGGGAATGG CTGGATGAT
1001 TCTCAGCCCT TCGGCCGAGG AGCAATGAGG GAGTGCTTCC GGACGAAGAA GCTCTCCAAC TTCTTGCATG CCCAGCAGT
1101 TGGCGAAGCG CTACATCGAG CCCGTAGACC GGGATGTGTA CTTTGAGGAC GTGCGTCTAC AGATGGAGGC CAAGCTCTC
1201 CAAGCCCCCC AAGCAGGTGG ACATCATGCA GATGTGCATC ATCGAGCTGA AGGACAGACC GGGCAAGCCC CTCTTCCAC
1301 AAGTACATCA AGTACAACTC CAACTCTGGC TTTGTCCGCG ATGACAACAT CCGCCTGACG CCGCAGGCCT TCAGCCACT
1401 ATCAGCTGAT AGTGGTGGAC ATCCAGGGAG TTGGGGATCT CTACACTGAC CCACAGATCC ACACGGAGAC GGGCACTGA
1501 TGTCCGCGGG ATGGCGCTCT TCTTCTACTC TCATGCCTGC AACCGGATTT GCGAGAGCAT GGGCCTTGCT CCCTTTGAC
1601 GCAGTGAATC AGAACACCAA GCTGCTGCAA TCAGCCAAGA CCATCTTGAG AGGAACAGAG GAAAAATGTG GGAGCCCCC
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1801 ACCACACAGC CAGAAGCTAG ACCACCTCCA TTGGCCAGTG TTCAGTGACC TCGATAACAT GGCATCCAGA GACCATGAT
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2201 GAGGGTGGGC GCTTCTGCGA GAAGGGCGAG GAGTGGGACC AGGAGTCGGC TGTCTTCCAC CTGGAGCACG CAGCCAACC
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2801 TGATCCTCAG GTGCAGGCTG CCTATCAGAA GGTGGTGGCT GGTGTGGCCA ATGCCCTGGC TCACAAATAC CACTGAGAT
2901 TATGGGGACA TCATGAAGCC CCTTGAGCAT CTGACTTCTG GCTAATAAAG GAAATTTATT TTCATTGCAA TAGTGTGTT
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3101 AGGTTGGCTA TAAAGAGGTC ATCAGTATAT GAAACAGCCC CCTGCTGTCC ATTCCTTATT CCATAGAAAA GCCTTGAC
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3701 TACATCTACG TATTAGTCAT CGCTATTACC ATGGTGATGC GGTTTTGGCA GTACATCAAT GGGCGTGGAT AGCGGTTT
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Deleted from original sequence:

1087-3265

C

Validation by Restriction Enzyme Digestion

Restriction Enzymes	Cutting Sites	DNA Fragments (bp)
NaeI	1704, 5426	3722, 4366
NdeI	3012, 3072, 3080, 3604	60, 8, 524, 7496
DrdI	106, 4058, 5576, 7458	3952, 1518, 1882, 736
ApaLI	6000, 7246	1246, 6842
ApaLI+NaeI	1704, 5426, 6000, 7246	3722, 574, 1246, 2546
ApaLI+NdeI	3012, 3072, 3080, 3604, 6000, 7246	60, 8, 524, 2396, 1246, 3854
ApaLI+DrdI	106, 4058, 5576, 6000, 7246, 7458	3952, 1518, 424, 1246, 212, 736