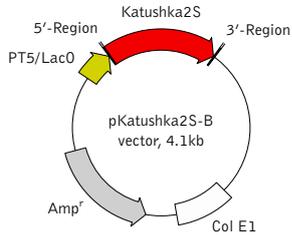# evrogen

# pKatushka2S-B vector

The vector sequence has been compiled using the information from sequence databases, published literature, and other sources, together with partial sequences obtained by Evrogen. This vector has not been completely sequenced.



For vector sequence, please visit our Web site at http://www.evrogen.com/products/vectors.shtml

| Product | Cat.# | Size |
|---|---|---|
| pKatushka2S-B vector | **FP763** | 20 μg |

| | |
|---|---|
| Vector type | bacterial expression vector |
| Reporter | Katushka2S |
| Reporter codon usage | mammalian |
| Promoter for Katushka2S | T5 promoter/lac operator |
| Host cells | prokaryotic |
| Selection | ampicillin |
| Replication | ColE1 ori |
| Use | Source of the Katushka2S coding sequence; Katushka2S expression in bacterial cells |

### 5' Region

```
                                        Age I                Katushka2S
 RBS  ATG.AGA.GGA.TCG.GGA.TCC.TTA.CCG.GTC.GCC.ACC.ATG.G...
                    BamH I                          Nco I*
```

\* — not unique site.

### 3' Region

```
       STOP      Eag I
... TGA.GCG.GCC.GCA.AGC.TTA...
            Not I     Hind III
```

## Location of features

T5 promoter/lac operator element: 7-87
T5 transcription start: 61
Katushka2S coding sequence: 147-854
Lambda t0 transcriptional termination region: 884-978
rrnB T1 transcriptional termination region: 1740-1838
ColE1 origin of replication: 2314
beta-lactamase coding sequence: 3932-3072

## Vector description

pKatushka2S-B is a prokaryotic expression vector encoding far-red fluorescent protein Katushka2S. Reporter codon usage is optimized for high expression in mammalian cells (humanized) [Haas et al. 1996].

The vector is primarily intended as a source of Katushka2S coding sequence. Flanking restriction sites are convenient for excision of Katushka2S sequence and its further insertion into other expression vectors of choice. Alternatively, Katushka2S coding sequence can be amplified by PCR.

**Note:** The plasmid DNA was isolated from dam⁺-methylated *E.coli*. Therefore some restriction sites are blocked by methylation. If you wish to digest the vector using such sites you will need to transform the vector into a dam⁻ host and make fresh DNA.

The vector can be also used for Katushka2S expression in prokaryotes under the control of T5 promoter/lac operator. The vector backbone contains ColE1 origin of replication and ampicillin resistance gene for propagation and selection in *E. coli*.

## References

Haas, J. et al. (1996) "Codon usage limitation in the expression of HIV-1 envelope glycoprotein." Curr Biol, 6 (3): 315–324 / pmid: 8805248