

## **Gateway® HyPer-AS entry clone**

**Cat# FP943**

### **Vector description**

Gateway® HyPer-AS entry clone is a vector containing HyPer gene variant with codon usage optimized for high expression in *Arabidopsis* and *Saccharomyces*. HyPer coding sequence is flanked by attL1 and attL2 sites allowing easy site-specific recombination. The Invitrogen Gateway® Technology provides a rapid and highly efficient way to transfer the HyPer gene into a number of Gateway® destination vectors for expression in different experimental systems.

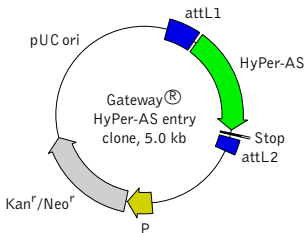
To increase mRNA translation efficiency, Kozak consensus translation initiation site is generated upstream of HyPer coding sequence [Kozak, 1987].

The vector backbone contains pUC origin of replication and kanamycin resistance gene (Kan<sup>r</sup>) for propagation and selection in *E. coli*.

## Vector map

For vector sequence, please visit our Web site at <http://www.evrogen.com/support/vector-info.shtml>

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.



## Location of features

attL1 site: 14-113

Kozak translation initiation site: 129-139

HyPer-AS: 136-1572

attL2 site: 1598-1697

Kanamycin resistance gene: 2922-3716

pUC origin of replication: 4301-4944

## LR site-specific recombination

Please refer to Invitrogen Gateway® Technology description for detailed instructions regarding LR site-specific recombination reaction. In general, to transfer HyPer gene into the destination vector you will need:

- Purified plasmid DNA of Gateway® HyPer-AS
- A destination vector of choice
- Invitrogen LR Clonase™ II enzyme mix (Invitrogen Cat. 11791-020)
- Proteinase K solution (supplied with the LR Clonase™ II enzyme mix)
- TE-Buffer, pH 8.0 (10 mM Tris-HCl, pH 8.0, 1 mM EDTA)
- Appropriate chemically competent *E. coli* host and growth media for expression
- Appropriate selective plates.

## Propagation in *E. coli*

Suitable host strains for propagation in *E. coli* include DH5alpha, HB101, XL1-Blue, and other general purpose strains. Plasmid incompatibility group is pMB1/ColE1. The vector confers resistance to kanamycin (30 µg/ml) to *E. coli* hosts. Copy number in *E. coli* is about 500.

## References:

Kozak M. An analysis of 5'-noncoding sequences from 699 vertebrate messenger RNAs. *Nucleic Acids Res.* 1987; 15 (20):8125-48. / pmid: 3313277

Gateway® Technology, Ver. E, 22 September 2003, 25-0522

URL: <http://www.invitrogen.com/content/sfs/manuals/gatewayman.pdf>

Online Sources, visited on 18/06/2008

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### Notice to Purchaser:

The HyPer-related materials (also referred to as "Products") are intended for research use only. These products are covered by Evrogen Patents and/or Patent applications pending.

Invitrogen Gateway® Technology: please see Limited Use Label License N<sup>o</sup>.19: Gateway® Cloning Products.

**MATERIAL SAFETY DATA SHEET INFORMATION:** To the best of our knowledge, these products do not require a Material Safety Data Sheet. However, all the properties of these products (and, if applicable, each of their components) have not been thoroughly investigated. Therefore, we recommend that you use gloves and eye protection, and wear a laboratory coat when working with these products.