pMAL-p5X Vector

1-800-632-7799
info@neb.com
www.neb.com

N8109S 0011111114111

N8109S

10 µg **Lot: 0011111** **Exp: 11/14**

200 µg/ml **Store at –20°C**

Description: The vector pMAL-p5X is designed to produce maltose-binding protein (MBP) fusions, where the protein of interest can be cleaved from MBP with the specific protease factor Xa (NEB #P8010).

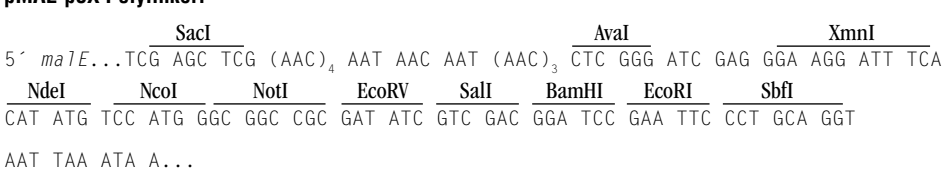
MBP fusions made with this vector include an N-terminal signal sequence, so the fusion protein is directed to the periplasm. The MBP has been engineered for tighter binding to amylose resin.

Source: NEB 10-beta Competent *E. coli* (pMAL-p5X)

Supplied in: 10 mM Tris-HCl, 1 mM EDTA, (pH 7.5).

A gene or open reading frame is inserted into a restriction site of the vector polylinker, in the same translational reading frame as the *malE* gene (encoding maltose-binding protein). The fusion protein thus produced can be purified by amylose affinity chromatography. The sequence coding for the four amino acids Ile-Glu-Gly-Arg is present just upstream of the XmnI site. This allows the protein of interest to be cleaved from maltose-binding protein with the specific protease Factor Xa. Fragments inserted in the XmnI site (cleaves GAAGG↓ATTTC) will produce a fusion protein that, after Factor Xa cleavage, contains no vector-derived residues on the protein of interest.

pMAL-p5X Polylinker:



The sequences of the pMAL vectors, as well as other pMAL information, are available at www.neb.com or by e-mail from info@neb.com. A detailed map of pMAL-p5X can be found in the appendix of the New England Biolabs Catalog.

Usage Notes: NEB 10-beta Competent *E. coli* (High Efficiency) (NEB #C3019) is recommended for propagation and subcloning. NEB Express Competent *E. coli* (High Efficiency) (NEB #C2523) is recommended for expression using this vector.

References:

1. Guan, C., Li, P., Riggs, P.D. and Inouye, H. (1987) *Gene* 67, 21–30.
2. Maina, C.V., Riggs, P.D., Grandea, A.G.III, Slatko, B.E., Moran, L.S., Tagliamonte, J.A., McReynolds, L.A. and Guan, C. (1988) *Gene* 74, 365–373.
3. Nagai, K. and Thogersen, H.C. (1987) *Methods Enzymology* 153, 461–481.
4. Riggs, P.D. (1990). Expression and Purification of Maltose-Binding Protein Fusions. In F.M. Ausebel, R. Brent, R.E. Kingston, D.D. Moore, J.G. Seidman, J.A. Smith and K. Struhl (Eds.), *Current Protocols in Molecular Biology* (pp.16.6.1–16.6.12). New York: John Wiley & Sons, Inc.
5. Yanisch-Perron, C., Vieira, J. and Messing, J. (1985) *Gene* 33, 103–119.

CERTIFICATE OF ANALYSIS

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pMAL-p5X Polylinker:

SacI AvaI XmnI
5´ malE...TCG AGC TCG (AAC)4 AAT AAC AAT (AAC)3 CTC GGG ATC GAG GGA AGG ATT TCA
NdeI NcoI NotI EcoRV SalI BamHI EcoRI SbfI
CAT ATG TCC ATG GGC GGC CGC GAT ATC GTC GAC GGA TCC GAA TTC CCT GCA GGT
AAT TAA ATA A...

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Notice to Buyer/User: The buyer/user has a non-exclusive license to use the vector for Research Purposes Only. Commercial use of this vector requires a license from New England Biolabs, Inc.

U.S. Patent No. 5,643,758

CERTIFICATE OF ANALYSIS