

Mcr-1 Protein, E. coli, Recombinant (His & SUMO)

General Information

Synonyms:	Polymyxin resistance protein MCR-1;mcr-1;mcr1;Probable phosphatidylethanolamine transferase Mcr-1
Protein Construction:	178-541 aa
Species:	E. coli
Expression Host:	E. coli
Accession:	A0A0R6L508
Molecular Weight:	56.7 kDa (predicted)
AA Sequence:	HYASFFRVHKPLRSYVNPIMPIYSVGKLASIEYKKASAPKDTIYHAKDAVQATKPDMRKPRLLVVFVGETARA DHVSFNGYERDTFPQLAKIDGVTNFSNVTSCGTSTAYSVPCMFSYLGADEYDVDTAKYQENVLDTLDRLGVSI LWRDNNSDSKGVMDKLPKAQFADYKSATNNAICNTNPNYNECRDVGMLVGLDDFVAANNGKDMLIMLHQ MGNHGPAYFKRYDEKFAKFTPVCEGNEKACEHQSLINAYDNALLATDDFIAQSIQWLQTHSNAYDVSMMLY VSDHGESLGENGVYLHGMPNAFAPKEQRSVPAFFWTDKQGTGTPMATDVTLVTHDAITPTLLKLFVDTADKVK DRTAFIR

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Probably catalyzes the addition of a phosphoethanolamine moiety to lipid A. Phosphoethanolamine modification

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of lipid A gives polymyxin resistance.; Confers resistance to polymyxin-type antibiotics; expression of the Mcr-1 protein in E.coli increases colistin and polymyxin B minimal inhibitory concentration (MIC) from 0.5 mg/ml to 2.0 mg/ml. The pHNSHP45 plasmid can transfer efficiently (0.1 to 0.001) to other E.coli strains by conjugation and increases polymyxin MIC by 8- to 16-fold; it may not require selective pressure to be maintained in the cell. When transformed into K.pneumoniae or P.aeruginosa it also increases polymyxin MIC 8- to 16-fold. In a murine (BALB/c mice) thigh infection study using an mcr1-encoding plasmid isolated from a human patient, the plasmid confers in vivo protection against colistin.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481