

Product Information

pTAC-MAT™-2 Expression Vector

Product Number **E 5405**
 Storage Temperature $-20\text{ }^{\circ}\text{C}$

TECHNICAL BULLETIN

Product Description

pTAC-MAT™-2 expression vector is a 5351 bp *Escherichia coli* expression vector used for cytoplasmic expression of a properly inserted open reading frame as a C-terminal MAT™ (Metal Affinity Tag) fusion protein. The MAT tag (HNHRHKH) is a transition metal binding (e.g. Ni^{+2} , Co^{+2} , etc) sequence useful for high quality purification. The promoter-regulatory region of the strong *tac* promoter (a hybrid of the *trp* and *lac* promoters from *E.coli*)^{1,2} drives transcription of ORF-MAT fusion constructs. Control of transcription is regulated by the presence of the *lacO* sequences and inclusion of the *lac* repressor gene (*lacI*) on the plasmid.

The following table provides map positions of key features in the pTAC-MAT-2 vector. Sequence verification of the MCS can be performed using the N-26 (Product No. P 7832) and C-24 (Product No. P 7957) primers.

pTAC-MAT™-2 Features

Feature	Map Position
N-26 Sequencing Primer Binding Site	578-603
<i>tac</i> Promoter	616-676
<i>lacO</i>	650-670
Ribosomal Binding Site	677-682
MCS	697-739
MAT tag	739-759
C-24 Sequencing Primer Binding Site	780-803
T1/T2 terminator	811-1181
beta lactamase (<i>amp</i> ^r)	1280-2137
pBR322 ori	2345-2464
f1 ori	3128-3591
<i>lacI</i>	4269-5351

C-terminal MAT-tagged fusion proteins may be purified utilizing the metal affinity properties of the MAT tag by using HIS-Select™ Nickel Affinity Gel (Product No. P 6611). Sigma-Aldrich offers a wide selection of related HIS-Select products. Please visit www.sigma-aldrich.com for a complete listing of resins and affinity capture plates.

Reagents

- pTAC-MAT-2 Expression Vector, 10 μg , E 4780, 0.5 mg/ml in 10 mM Tris-HCl, pH 8.0, 1 mM EDTA.
- pTAC-MAT-2+BAP Control Vector, 1 μg , C 7864, 0.05 mg/ml in 10 mM Tris-HCl, pH 8.0, 1 mM EDTA.

Precautions and Disclaimer

This product ships on dry ice and storage at $-20\text{ }^{\circ}\text{C}$ is recommended.

Precautions/Disclaimer

For laboratory use only. Not for drug, household or other uses. Consult the MSDS for information regarding hazards and safe handling practices.

References

1. DeBoer, H. A., et al., Proc. Natl. Acad. Sci U.S.A., **80**, 21-25 (1983).
2. Russell, D. R. and Bennett, G. N., Gene, **20**, 231-243 (1982).

