APX185Ge01 100μg
Active Maltose Binding Protein (MBP)
Organism Species: ***Pan-species (General)***
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Lys27~Thr392
Tags: N-terminal His-tag
Purity: >95%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .
Original Concentration: 200μg/mL
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 6.2
Predicted Molecular Mass: 50.0kDa
Accurate Molecular Mass: 51kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8ºC for one month.
Aliquot and store at -80ºC for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

KIEE GKLVIWINGD KGYNGLAEVG
KKFEKDTGIK VTVEHPDKLE EKFPQVAATG DGPDIIFWAH DRFGGYAQSG
LLAEITPDKA FQDKLYPFTW DAVRYNGKLI AYPIAVEALS LIYNKDLLPN
PPKTWEEIPA LDKELKAKGK SALMFNLQEP YFTWPLIAAD GGYAFKYENG
KYDIKDVGVD NAGAKAGLTF LVDLIKNKHM NADTDYSIAE AAFNKGETAM
TINGPWAWSN IDTSKVNYGV TVLPTFKGQP SKPFVGVLSA GINAASPNKE
LAKEFLENYL LTDEGLEAVN KDKPLGAVAL KSYEEELAKD PRIAATMENA
QKGEIMPNIP QMSAFWYAVR TAVINAASGR QTVDEALKDA QT

[ACTIVITY]

Maltose binding protein (MBP) encoded by the malE gene in Escherichia coli, is a 44-kD monomeric periplasmic protein. MBP is component of the Escherichia coli maltose/maltodextrin system, which regulates the uptake and catabolism of maltrodextrins as part of the chemotactic response. This protein is used in recombinant protein expression as an affinity and solubility tag. Glutathione S Transferase Alpha 3 (GSTa3) has been identified as an interactor of MBP, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant MBP and recombinant mouse GSTa3. Briefly, biotin-linked MBP were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to GSTa3-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 µl stop solution to the wells and read at 450 nm immediately. The binding activity of

recombinant MBP and recombinant mouse GSTa3 was shown in Figure 1, the EC50 for this effect is 0.46 ug/mL.

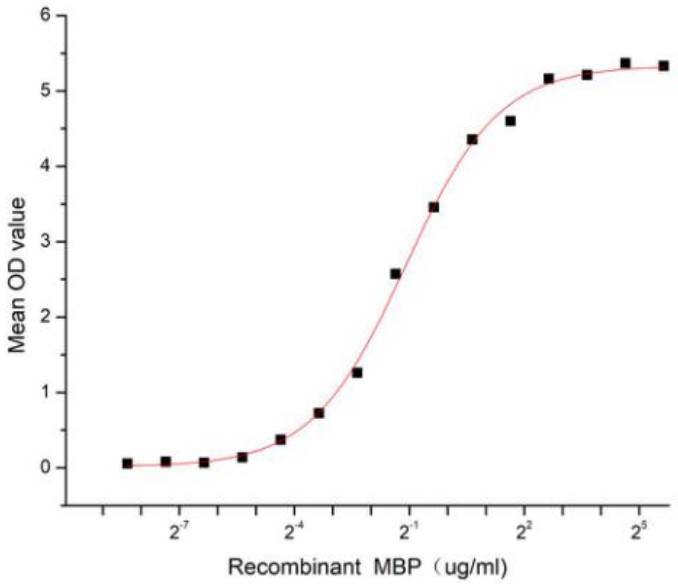

Figure 1. The binding activity of recombinant MBP and recombinant mouse GSTa3

[IDENTIFICATION]

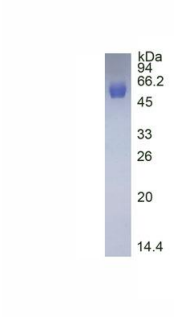

Figure 2. SDS-PAGE

Sample: Active recombinant MBP, General

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.