APA539Hu61 10μg
Active Myelin Basic Protein (MBP)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Met1~Arg304
Tags: N-terminal His-tag
Purity: >95%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.01% sKl, 5%Trehalose.
Original Concentration: 500μg/mL
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 9.8
Predicted Molecular Mass: 34.7kDa
Accurate Molecular Mass: 46kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[USAGE]

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8°C for one month.
Aliquot and store at -80°C 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 37°C 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]

MGNHAGKREL NAEKASTNSE TNRGESEKKR NLGELSRTTS EDNEVFGEAD
ANQNNGTSSQ DTAVTDSKRT ADPKNAWQDA HPADPGSRPH LIRLFSRDAP
GREDNTFKDR PSESDELQTI QEDSAATSES LDVMASQKRP SQRHGSKYLA
TASTMDHARH GFLPRHRDTG ILDSIGRFFG GDRGAPKRGS GKDSHHPART
AHYGSLPQKS HGRTQDENPV VHFFKNIVTP RTPPPSQGKG RGLSLSRFSW
GAEGQRPGFG YGGRASDYKS AHKGFKGVDA QGTLSKIFKL GGRDSRSGSP
MARR

[ACTIVITY]

Myelin basic protein (MBP), a 18.5-kDa encephalitogenic peptide, is the second most abundant in central nervous system and responsible for adhesion of the cytosolic surfaces of multilayered compact myelin, MBP is biased expressed in cerebellum adult and cortex adult. It can interact with a number of polyanionic proteins including actin, tubulin, Ca(2+)-calmodulin, and clathrin, and negatively charged lipids, and acquires structure on binding to them. Calmodulin Like Protein 3 (CALML3) is a kind of Ca(2+)-calmodulin, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human MBP and recombinant human CALML3. 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 CALML3-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 recombinan human MBP and recombinan human CALML3 was shown in Figure 1, the EC50 for this effect is 7.4 ug/mL.

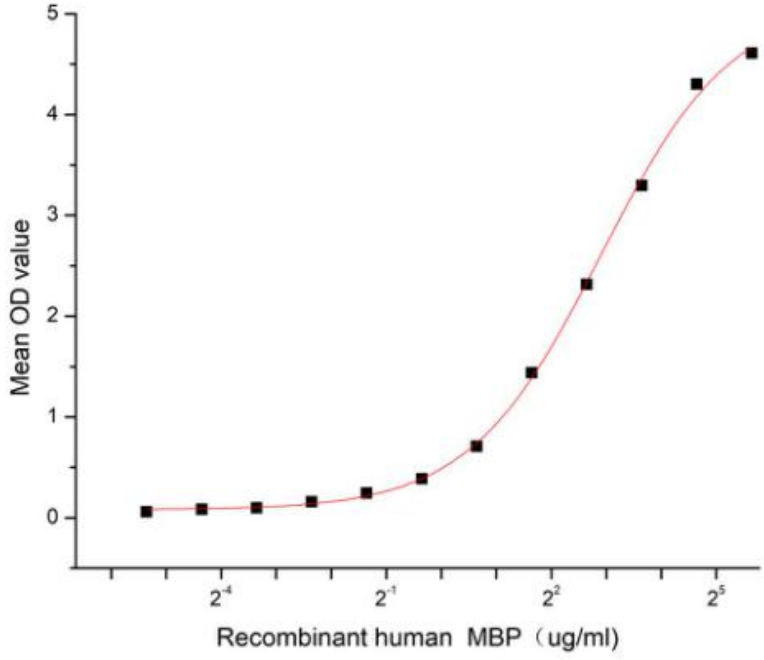

Figure 1. The binding activity of recombinan human MBP and recombinan human CALML3

[IDENTIFICATION]

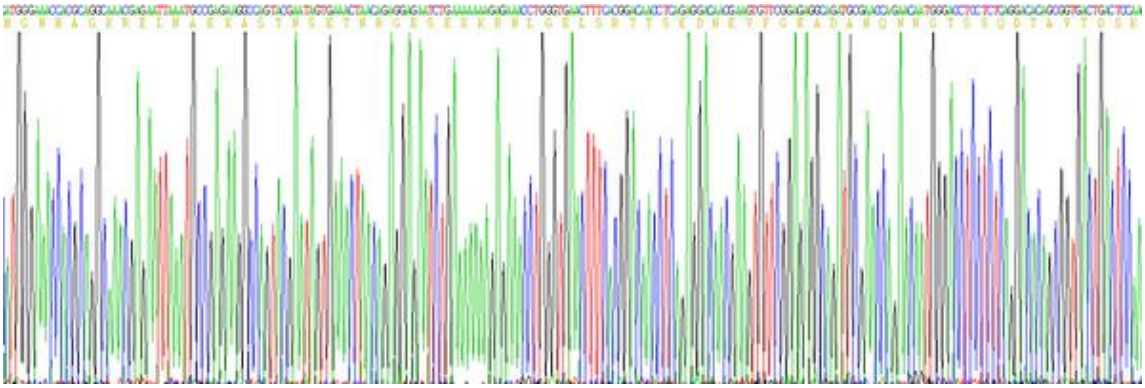

Figure 2. Gene Sequencing (extract)

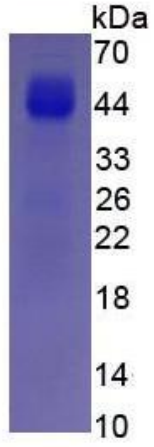

Figure 3. SDS-PAGE

Sample: Active recombinant MBP, Human

[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.