

Product Information

Anti-PABP Antibody, Mouse Monoclonal

Clone 10E10, purified from hybridoma cell culture

P6246

Product Description

Monoclonal Anti-PABP (mouse IgG1 isotype) is derived from the 10E10 hybridoma produced by the fusion of mouse myeloma cells (SP2/0) and splenocytes from BALB/c mice immunized with recombinant human PABP.¹ The isotype is determined using ImmunoType™ Kit (P6246 ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (P6246 ISO-2).

Monoclonal Anti-PABP recognizes human,¹ monkey, bovine, dog, hamster and *Xenopus*¹ PABP. The antibody may be used in ELISA, immunoblotting (approx. 69 kDa), immunoprecipitation, and immunocytochemistry.¹

Stability and translation of mRNA in the cytoplasm is governed by different proteins, among them the PABP protein (**poly(A)-binding protein**). This protein, which is found in the cytoplasm, binds to the 3'-poly(A) tail of mRNA transcripts. PABP is found in excess, relative to the amount of cytoplasmic poly(A) (three fold) and binds to its poly(A) target at high affinity (K_d of 7nM).¹ PABP is highly conserved between different organisms especially at the amino-terminal region of the protein that contains four RNA-binding domains (RBDs). These domains are important for the binding of the poly(A) tail of mRNA.² Most mRNAs in eukaryotic cells contain a cap structure in their 5' end (m⁷GpppX). This structure is recognized by the EIF4F complex, which interacts with PABP indirectly via the PAIP-1 protein (PABP-interacting protein-1). As a consequence, an interaction between the 5' and 3' ends of mRNA occurs. This proximity between the mRNA ends contributes to its stability and enhances translation, since terminating ribosomes may start translation again.^{3, 4}

Reagent

Monoclonal Anti-PABP is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 2 mg/mL.

Precautions and Disclaimer

Due to the sodium azide content, a safety data sheet (SDS) for this product has been sent to the attention of the safety officer of your institution. Consult the SDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 0.5-1 µg/mL is recommended using whole cell extracts of HEK 293T cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working concentration by titration.

References

1. Gorlach, M., et al., *Exp. Cell Res.*, **211**, 400-407 (1994).
2. Adam, S.A., et al., *Mol. Cell. Biol.*, **6**, 2932-2943 (1986).
3. Grange, T.C.M., et al., *Nuc. Acid Res.*, **15**, 4771-4787 (1987).
4. Craig, A.W.B., et al., *Nature*, **392**, 520-523 (1998).

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