

Product Information

Monoclonal Anti-TAP

Clone 53H8

Purified Mouse Immunoglobulin

Product Number **T 1076**

Product Description

Monoclonal Anti-TAP (mouse IgG1 isotype) is derived from the 53H8 hybridoma produced by the fusion of mouse myeloma cells (SP2/O) and splenocytes from Balb/c mice immunized with TAP. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma ISO-2).

Monoclonal Anti-TAP recognizes human TAP (~66 kDa). The antibody may be used in ELISA, immunoblotting,¹⁻² immunoprecipitation, and immunocytochemistry.

The human protein Tip Associated protein (TAP) (also named NXF1- Nuclear Export Factor 1) was characterized as an mRNA export factor. Tap interacts with the Y14 protein, a participant of the mRNA-protein complex (mRNP) near the exon-exon junction of the spliced mRNAs. The interaction between TAP and Y14 enhances the export of the spliced mRNAs from the nucleus to the cytoplasm.¹⁻³

Tap (homolog of Mex67p in yeast) contains at least three distinct functional domains: CTE (Constitutive Transport Element) a RNA-binding domain (amino acids 96-372), a central binding domain (amino acids 370-550) specific for an essential binding of the cellular cofactor termed p15 or NXT-1, and a carboxy-terminal domain (amino acids 550-619) that interacts with several nucleoporins and functions as a nuclear export signal.³⁻⁴ Formation of the TAP/p15 heterodimer is required for efficient nuclear pore complex binding and significantly enhances the ability of TAP to export mRNAs from the nucleus.⁵ In addition, TAP plays a central role in the nuclear export of CTE containing viral mRNA. However, the recruitment of TAP to the two types of mRNA occurs by different mechanisms. TAP binds to the viral CTE directly, while the interaction with cellular mRNA is found to be indirectly.³⁻⁶

Reagent

The antibody is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~1.5 mg/mL

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous 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 also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples 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 HeLa nuclear cell extract.

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

References

1. Kataoka, N., et al., *EMBO J.*, **22**, 6424-6433 (2001).
2. Kim, V.N., et al., *Science*, **293**, 1832-1836 (2001)
3. Braum, I.C., et al., *Mol. Cell Biol.*, **22**, 5405-5418 (2002).
4. Ho, D.N., et al., *Proc. Natl. Acad. Sci. USA*, **99**, 1888-1893 (2002).
5. Lai, M-C., et al., *J. Biol. Chem.*, **279**, 31745-31749 (2004).
6. Lindtner, S., et al., *RNA*, **8**, 345-356 (2002).

KAA/RF 10/05

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