

Product Information

Monoclonal Anti-Importin α Clone IM-75

Purified mouse immunoglobulin

Product Number **I1784**

Product Description

Monoclonal Anti-Importin α (mouse IgG2b isotype) is derived from the hybridoma IM-75 produced by the fusion of mouse myeloma cells (NS1 cells), and splenocytes from BALB/c mice, immunized with recombinant human importin α (Sigma No. I9656). The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO2).

Monoclonal Anti-Importin α recognizes human, bovine, rat, and mouse importin α (approx. 60 kDa). The antibody can be used in ELISA, immunoblotting, immunoprecipitation, and immunocytochemistry. The antibody recognizes mouse importin α 1, 3, 5, and 7.

The importin α (karyopherin α , Imp α , Qip1) family of proteins are nuclear transport adaptor proteins with molecular weights of approximately 60 kDa. The Importin α family of proteins is comprised of three subfamilies based on amino acid sequence similarity: SRP1-like subfamily (containing the SRP1, Importin α 5, α 6, and α 7), Rch1-like subfamily (containing Rch1, Pendulin, Importin α 1, and α 2), and Importin α 3/Qip1-like subfamily (containing Importin α 3 and α 4).^{2, 3}

Importin α links the import receptor importin β (karyopherin β 1, p97, Imp β), with cargo proteins containing classical nuclear localization signal (NLS).⁴⁻⁷ Binding of importin β to importin α increases the affinity of the importin α NLS binding domain to the cargo protein.

Formation of the Importin β /Importin α /cargo complex, triggers the binding of importin β to the nuclear pore complex (NPC) and the subsequent import of the entire complex into the nucleus. Inside the nucleus, the cargo protein and importin α are released from the complex upon binding of Ran-GTP to importin β . Importin α is recycled back to the cytoplasm by CAS, an importin α specific export receptor.²⁻⁷

Reagent

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

Antibody Concentration: Approx. 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 prolonged 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 1–2 µg/ml is recommended using HeLa 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. Sakaguchi, N., *et al.*, *Hyb. and Hyb.*, **22**, 397–400 (2003).
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4. Gorlich, D., and Kutay, U., *Annu. Rev. Cell. Dev. Biol.*, **15**, 607–660 (1999).
5. Nakielny, S., and Dreyfuss, G., *Cell*, **99**, 677–690 (1999).
6. Kohler, M. *et al.*, *Mol. Cell. Biol.*, **19**, 7782–7791 (1999).
7. Conti, E., and Izaurralde, E., *Curr. Opin. Cell Biol.*, **13**, 310–319 (2001).

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