

Product Information

Anti-Importin α 1 antibody, Rat monoclonal
clone 1A6, purified from hybridoma cell culture

Product Number **I9658**

Product Description

Anti-Importin α 1 (rat IgG2a isotype) is derived from the hybridoma 1A6 produced by the fusion of mouse myeloma cells (SP2/0), and splenocytes from BN/Crj rats, immunized with recombinant mouse importin α 1.

Anti-Importin α 1 recognizes human, canine, mouse, and chicken Importin α 1 (approx. 60 kDa). The antibody may be used in immunoblotting and immunocytochemistry.

The importin α (karyopherin α , Imp α , Qip1) family of proteins are nuclear transport adaptor proteins with molecular weights of approx. 60 kDa and classified into three subfamilies according to the amino acid sequence comparison: the SRP1-like subfamily (containing the SRP1, Importin α 5, α 6, and α 7), the 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).¹⁻³ 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

Anti-Importin α 1 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

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards 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 0.1-0.2 μ g/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).
2. Kohler, M., et al., *FEBS Lett.*, **417**, 104-108 (1997).
3. Kohler, M., et al., *Mol. Cell. Biol.*, **19**, 7782-7791 (1999).
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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