

Importin β 1 (E1F1E) Rabbit mAb

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Applications: W, IP	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 97	Source/Isotype: Rabbit IgG	UniProt ID: #Q14974	Entrez-Gene Id: 3837
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C . Do not aliquot the antibody.

Specificity/Sensitivity

Importin β 1 (E1F1E) Rabbit mAb recognizes endogenous levels of total importin β 1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro307 of human importin β 1 protein.

Background

Importins belong to the karyopherin family of nuclear transport proteins (1) and are divided into two subgroups: importin α and importin β . Importins mainly function in nuclear protein import and export (2,3). Importin β 1 (also known as karyopherin β 1, Kpn β 1, Kpn β 1, or p97) plays a key role in the nuclear import process (1-3). Nuclear import via importin β 1 association with adaptor importin α (also known as karyopherin α , or Kpn α) is an essential component of the classical nuclear localization signal (NLS) pathway (4). Importin α directly recognizes the NLS present in the cargo target, prompting complex formation with importin β 1. The cargo:importin α :importin β 1 complex is transported across the nuclear pore complex (NPC) into the nucleus, where it is dissociated by the binding of RanGTP (1-4). Nuclear import directly via importin β 1 can also occur by importin β 1 recognition of the cargo protein, bypassing importin α involvement. In both cases, the importin β 1/target protein interaction is mediated through the binding of importin β 1 HEAT repeats with the target protein sequences (either the cargo protein itself or importin α) (5).

Background References

1. Chook, Y.M. and Blobel, G. (2001) *Curr Opin Struct Biol* 11, 703-15.
2. Pemberton, L.F. and Paschal, B.M. (2005) *Traffic* 6, 187-98.
3. Moroiianu, J. (1998) *J Cell Biochem* 70, 231-9.
4. Lange, A. et al. (2007) *J Biol Chem* 282, 5101-5.
5. Marfori, M. et al. (2011) *Biochim Biophys Acta* 1813, 1562-77.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween $\text{\textcircled{R}}$ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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