

Store at  
-20C  
#60769**Importin  $\beta$ 1 (E1F1G) Rabbit mAb**

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:100

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at  $-20^{\circ}\text{C}$ . Do not aliquot the antibody.

**Specificity/Sensitivity**

Importin  $\beta$ 1 (E1F1G) Rabbit mAb recognizes endogenous levels of total importin  $\beta$ 1 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asn486 of human importin  $\beta$ 1 protein.

**Background**

Importins belong to the karyopherin family of nuclear transport proteins (1) and are divided into two subgroups: importin  $\alpha$  and importin  $\beta$ . Importins mainly function in nuclear protein import and export (2,3). Importin  $\beta$ 1 (also known as karyopherin  $\beta$ 1, Kpn $\beta$ 1, Kpnb1, or p97) plays a key role in the nuclear import process (1-3). Nuclear import via importin  $\beta$ 1 association with adaptor importin  $\alpha$  (also known as karyopherin  $\alpha$ , or Kpna) is an essential component of the classical nuclear localization signal (NLS) pathway (4). Importin  $\alpha$  directly recognizes the NLS present in the cargo target, prompting complex formation with importin  $\beta$ 1. The cargo:importin  $\alpha$ :importin  $\beta$ 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  $\beta$ 1 can also occur by importin  $\beta$ 1 recognition of the cargo protein, bypassing importin  $\alpha$  involvement. In both cases, the importin  $\beta$ 1/target protein interaction is mediated through the binding of importin  $\beta$ 1 HEAT repeats with the target protein sequences (either the cargo protein itself or importin  $\alpha$ ) (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  $4^{\circ}\text{C}$  with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

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

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