

#60769 Store at -20°C

## Importin $\beta$ 1 (E1F1G) Rabbit mAb



**Cell Signaling**  
TECHNOLOGY®

**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

**For Research Use Only. Not for Use in Diagnostic Procedures.**

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

### 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°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, Kpn $\beta$ 1, 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 Kpn $\alpha$ ) 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. Morioanu, 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® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**WB:** Western Blotting **IP:** Immunoprecipitation

### Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

### Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.  
All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

### Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.