

karyopherin α 1/6 (C-20): sc-6918

BACKGROUND

Protein transport across the nucleus is a selective, multi-step process involving several cytoplasmic factors that mediate protein passage through the nuclear pore complex (NPC). Cytoplasmic proteins that contain nuclear localization signals (NLSs) must be recognized as import substrates, dock at the nuclear pore complex and translocate across the nuclear envelope in an ATP-dependent fashion. Karyopherin α 1 and karyopherin α 6 are widely expressed nuclear import proteins that act as adaptors for karyopherin β 1, specifically binding to and guiding NLS-containing proteins to the NPC. Both karyopherin α 1 and karyopherin α 6 contain one IBB domain and ten ARM repeats through which they convey their protein binding and localization function. Together, karyopherin α 1 and karyopherin α 6 are responsible for ensuring the nuclear import of NLS-containing substrates.

CHROMOSOMAL LOCATION

Genetic locus: KPNA1 (human) mapping to 3q21.1, KPNA6 (human) mapping to 1p35.1; Kpna1 (mouse) mapping to 16 B3, Kpna1 (mouse) mapping to 4 D2.3.

SOURCE

karyopherin α 1/6 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of karyopherin α 1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6918 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

karyopherin α 1/6 (C-20) is recommended for detection of karyopherin α 1 and karyopherin α 6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

karyopherin α 1/6 (C-20) is also recommended for detection of karyopherin α 1 and karyopherin α 6 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of karyopherin α 1/6: 60 kDa.

Positive Controls: mouse liver extract: sc-2256, Jurkat whole cell lysate: sc-2204 or karyopherin α 1 (h3): 293 Lysate: sc-171440.

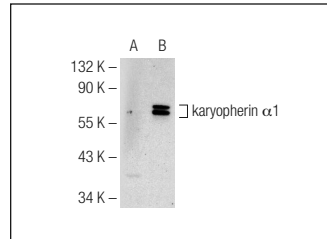
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

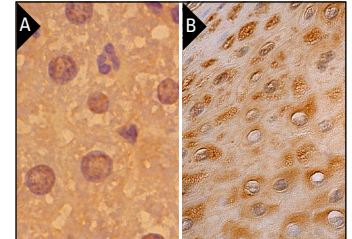
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



karyopherin α 1/6 (C-20): sc-6918. Western blot analysis of karyopherin α 1 expression in non-transfected: sc-110760 (A) and human karyopherin α 1 transfected: sc-171440 (B) 293 whole cell lysates.



karyopherin α 1/6 (C-20): sc-6918. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver tissue showing perinuclear localization (A) and nuclear staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Ciciarello, M., et al. 2004. Importin β is transported to spindle poles during mitosis and regulates Ran-dependent spindle assembly factors in mammalian cells. *J. Cell Sci.* 117: 6511-6522.
- Furuta, M., et al. 2004. Heat-shock induced nuclear retention and recycling inhibition of importin α . *Genes Cells* 9: 429-441.
- Pickard, B.W., et al. 2007. Type 1 parathyroid hormone receptor (PTH1R) nuclear trafficking: regulation of PTH1R nuclear-cytoplasmic shuttling by importin- α / β and chromosomal region maintenance 1/exportin 1. *Endocrinology* 148: 2282-2289.
- Theodore, M., et al. 2008. Multiple nuclear localization signals function in the nuclear import of the transcription factor Nrf2. *J. Biol. Chem.* 283: 8984-8994.
- Ghosh, S., et al. 2011. Assembly of the human origin recognition complex occurs through independent nuclear localization of its components. *J. Biol. Chem.* 286: 23831-23841.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **karyopherin α 1/6 (2D9): sc-101540**, our highly recommended monoclonal alternative to karyopherin α 1/6 (C-20).