

# MKLP-1 (H-110): sc-22793

## BACKGROUND

The monoclonal antibody CHO1 detects a spindle antigen required for mitotic progression. Screening a HeLa cell cDNA expression library with this antibody has been shown to yield a cDNA predicted to encode a protein significantly related within its amino-terminal half to the motor ends of members of the kinesin superfamily. Since this similarity does not extend further, it has been suggested that the CHO1 antigen, now designated MKLP-1 (mitotic kinesin-like protein-1), represents a novel kinesin. Sequence analysis has also been shown to predict that MKLP-1 possesses features typical of nuclear proteins. Immunocytological studies have demonstrated that MKLP-1 moves from the nucleus early in mitosis and then to the midbody after cytokinesis. MKLP-1 has been shown to bundle antiparallel microtubules *in vitro* and to move them at rates comparable to spindle elongation *in vivo*. A hamster homolog of MKLP-1, designated CHO1 antigen, has also been isolated. Although apparently functionally equivalent with respect to microtubule bundling activity, there are significant differences between the human and hamster proteins at their C-termini, possibly due to alternative splicing or the presence of more than one MKLP-1 locus.

## CHROMOSOMAL LOCATION

Genetic locus: KIF23 (human) mapping to 15q23; Kif23 (mouse) mapping to 9 B.

## SOURCE

MKLP-1 (H-110) is a rabbit polyclonal antibody raised against amino acids 1-110 mapping at the N-terminus of MKLP-1 of human origin.

## PRODUCT

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

MKLP-1 (H-110) is available conjugated to agarose (sc-22793 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

## APPLICATIONS

MKLP-1 (H-110) is recommended for detection of MKLP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

MKLP-1 (H-110) is also recommended for detection of MKLP-1 in additional species, including bovine.

Suitable for use as control antibody for MKLP-1 siRNA (h): sc-35936, MKLP-1 siRNA (m): sc-37626, MKLP-1 shRNA Plasmid (h): sc-35936-SH, MKLP-1 shRNA Plasmid (m): sc-37626-SH, MKLP-1 shRNA (h) Lentiviral Particles: sc-35936-V and MKLP-1 shRNA (m) Lentiviral Particles: sc-37626-V.

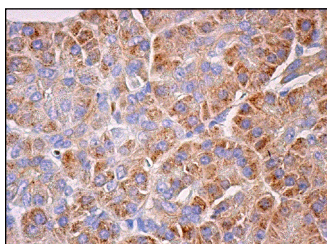
Molecular Weight of MKLP-1: 110 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or K-562 nuclear extract: sc-2130.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



MKLP-1 (H-110): sc-22793. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Krasinska, L., et al. 2007. Regulation of multiple cell cycle events by Cdc14 homologues in vertebrates. *Exp. Cell Res.* 313: 1225-1239.
2. Smith, K.R., et al. 2011. A role for central spindle proteins in cilia structure and function. *Cytoskeleton* 68: 112-124.
3. Belaid, A., et al. 2013. Autophagy plays a critical role in the degradation of active RHOA, the control of cell cytokinesis and genomic stability. *Cancer Res.* 73: 4311-4322.

## 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.



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Try **MKLP-1 (C-12): sc-390113** or **MKLP-1 (24): sc-136473**, our highly recommended monoclonal alternatives to MKLP-1 (H-110). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **MKLP-1 (C-12): sc-390113**.