

Claspin (H-300): sc-48771

BACKGROUND

Claspin, an essential replication checkpoint control protein, regulates the interaction between Chk1 and the upstream regulatory kinase ATR. Chk1 mediates cell cycle arrest in response to a block in DNA replication or to DNA damage by ultraviolet radiation. Claspin becomes phosphorylated within its Chk1 binding domain in response to replication stress. This domain consists of two highly conserved repeats of approximately ten amino acids. Each repeat contains a serine residue (Serine 864 and Serine 895) that undergoes phosphorylation. Binding of Chk1 and Claspin promotes the interaction between Chk1, ATR and Rad9, thereby arresting the cell cycle. Claspin is most abundant within cells at the S/G₂ phase.

REFERENCES

1. Kumagai, A., et al. 2000. Claspin, a novel protein required for the activation of Chk1 during a DNA replication checkpoint response in *Xenopus* egg extracts. *Mol. Cell* 6: 839-849.
2. Kumagai, A., et al. 2003. Repeated phosphopeptide motifs in Claspin mediate the regulated binding of Chk1. *Nat. Cell Biol.* 5: 161-165.

CHROMOSOMAL LOCATION

Genetic locus: CLSPN (human) mapping to 1p34.3; Clspn (mouse) mapping to 4 D2.2.

SOURCE

Claspin (H-300) is a rabbit polyclonal antibody raised against amino acids 1033-1332 mapping at the C-terminus of Claspin 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.

STORAGE

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

APPLICATIONS

Claspin (H-300) is recommended for detection of Claspin 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Claspin siRNA (h): sc-45412, Claspin siRNA (m): sc-45413, Claspin shRNA Plasmid (h): sc-45412-SH, Claspin shRNA Plasmid (m): sc-45413-SH, Claspin shRNA (h) Lentiviral Particles: sc-45412-V and Claspin shRNA (m) Lentiviral Particles: sc-45413-V.

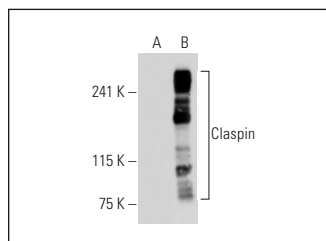
Molecular Weight of Claspin: 180 kDa.

Positive Controls: Claspin (m): 293T Lysate: sc-125137, MCF7 whole cell lysate: sc-2206 or ZR-75-1 cell lysate: sc-2241.

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.

DATA



Claspin (H-300): sc-48771. Western blot analysis of Claspin expression in non-transfected: sc-117752 (A) and mouse Claspin transfected: sc-125137 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kemp, M.G., et al. 2010. Tipin-replication protein A interaction mediates Chk1 phosphorylation by ATR in response to genotoxic stress. *J. Biol. Chem.* 285: 16562-16571.
2. Lindsey-Boltz, L.A. and Sancar, A. 2011. Tethering DNA damage checkpoint mediator proteins topoisomerase IIβ-binding protein 1 (TopBP1) and Claspin to DNA activates ataxia-telangiectasia mutated and RAD3-related (ATR) phosphorylation of checkpoint kinase 1 (Chk1). *J. Biol. Chem.* 286: 19229-19236.
3. Serçin, O. and Kemp, M.G. 2011. Characterization of functional domains in human Claspin. *Cell Cycle* 10: 1599-1606.
4. Liu, G., et al. 2012. Altered replication in human cells promotes DMPK (CTG)_n · (CAG)_n repeat instability. *Mol. Cell. Biol.* 32: 1618-1632.

RESEARCH USE

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

MONOS
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Try **Claspin (B-6): sc-376773**, our highly recommended monoclonal alternative to Claspin (H-300).