

Claspin (Q-20): sc-27296

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 and ATR and Rad9, thereby arresting the cell cycle. Claspin is most abundant within cells at the S/G₂ phase.

REFERENCES

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- Kumagai, A., et al. 2003. Repeated phosphopeptide motifs in Claspin mediate the regulated binding of Chk1. *Nat. Cell Biol.* 5: 161-165.
- Jeong, S.Y., et al. 2003. Phosphorylated Claspin interacts with a phosphate-binding site in the kinase domain of Chk1 during ATR-mediated activation. *J. Biol. Chem.* 278: 46782-46788.
- Sar, F., et al. 2004. Human Claspin is a ring-shaped DNA-binding protein with high affinity to branched DNA structures. *J. Biol. Chem.* 279: 39289-39295.
- Lin, S.Y., et al. 2004. Human Claspin works with BRCA1 to both positively and negatively regulate cell proliferation. *Proc. Natl. Acad. Sci. USA* 101: 6484-6489.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: CLSPN (human) mapping to 1p34.3.

SOURCE

Claspin (Q-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-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.

Blocking peptide available for competition studies, sc-27296 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Claspin (Q-20) is recommended for detection of Claspin of 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).

Claspin (Q-20) is also recommended for detection of Claspin in additional species, including equine, canine and bovine.

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

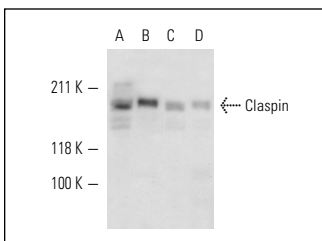
Molecular Weight of Claspin: 180 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, ZR-75-1 cell lysate: sc-2241 or MCF7 whole cell lysate: sc-2206.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Claspin (Q-20): sc-27296. Western blot analysis of Claspin expression in HeLa (A), HCT-116 (B), MCF7 (C) and ZR-75-1 (D) whole cell lysates.

RESEARCH USE

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

MONOS
Satisfaction
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Try **Claspin (B-6): sc-376773**, our highly recommended monoclonal alternative to Claspin (Q-20).