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# Claspin (m): 293T Lysate: sc-125137

## 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/G<sub>2</sub> 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. Chini, C.C., et al. 2003. Human Claspin is required for replication checkpoint control. *J. Biol. Chem.* 278: 30057-30062.
3. 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.
4. Kumagai, A., et al. 2003. Repeated phosphopeptide motifs in Claspin mediate the regulated binding of Chk1. *Nat. Cell Biol.* 5: 161-165.
5. 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.
6. 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.

## CHROMOSOMAL LOCATION

Genetic locus: Clspn (mouse) mapping to 4 D2.2.

## PRODUCT

Claspin (m): 293T Lysate represents a lysate of mouse Claspin transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## RESEARCH USE

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

## APPLICATIONS

Claspin (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Claspin antibodies. Recommended use: 10-20 µl per lane.

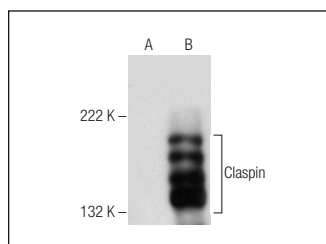
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Claspin (B-6): sc-376773 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Claspin expression in Claspin transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



Claspin (B-6): sc-376773. Western blot analysis of Claspin expression in non-transfected: sc-117752 (A) and mouse Claspin transfected: sc-125137 (B) 293T whole cell lysates.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.