SANTA CRUZ BIOTECHNOLOGY, INC.

Separase (C-20): sc-27219

BACKGROUND

Separase is a cysteine protease that triggers anaphase in all eukaryotes by participating in separation of sister chromatids during mitosis. Once activated, separase hydrolyzes the SCC1 subunit of cohesin, the chromosomal protein complex responsible for sister chromatid cohesion. Separase and cohesin are highly conserved from yeasts to humans. When the cell is not dividing, separase is prevented from cleaving cohesin through its association with another protein, securin. When anaphase is signaled, the securin is ubiquitinated and hydrolyzed by APC/cyclosome, releasing the active separase. Separase is transiently activated between the two meioses and may also be involved in homolog separation.

REFERENCES

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2. Zou, H., et al. 2002. Anaphase specific auto-cleavage of separase. FEBS Lett. 528: 246-250.
3. Waizenegger, I., et al. 2002. Regulation of human separase by securin binding and autocleavage. Curr. Biol. 12: 1368-1378.
4. Chestukhin, A., et al. 2003. Processing, localization, and requirement of human separase for normal anaphase progression. Proc. Natl. Acad. Sci. USA 100: 4574-4579.
5. Chestukhin, A., et al. 2003. Western blot screening for monoclonal antibodies against human separase. J. Immunol. Methods 274: 105-113.
6. Sullivan, M., et al. 2003. A non-proteolytic function of separase links the onset of anaphase to mitotic exit. Nat. Cell Biol. 5: 249-254.
7. Giménez-Abián, J.F., et al. 2005. Separase is required at multiple pre-anaphase cell cycle stages in human cells. Cell Cycle 4: 1576-1584.
8. Nakajima, M., et al. 2007. The complete removal of cohesin from chromosome arms depends on separase. J. Cell Sci. 120: 4188-4196.

CHROMOSOMAL LOCATION

Genetic locus: ESPL1 (human) mapping to 12q13.13.

SOURCE

Separase (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Separase 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-27219 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

Separase (C-20) is recommended for detection of Separase of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

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

Suitable for use as control antibody for Separase siRNA (h): sc-72040, Separase shRNA Plasmid (h): sc-72040-SH and Separase shRNA (h) Lentiviral Particles: sc-72040-V.

Molecular Weight of Separase: 230 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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) 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.

RESEARCH USE

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

PROTOCOLS

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