SANTA CRUZ BIOTECHNOLOGY, INC.

Separase (B-4): sc-390314

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.

CHROMOSOMAL LOCATION

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

SOURCE

Separase (B-4) is a mouse monoclonal antibody raised against amino acids 1496-1795 mapping at the C-terminus of Separase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Separase (B-4) is available conjugated to agarose (sc-390314 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390314 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390314 PE), fluorescein (sc-390314 FITC), Alexa Fluor® 488 (sc-390314 AF488), Alexa Fluor® 546 (sc-390314 AF546), Alexa Fluor® 594 (sc-390314 AF594) or Alexa Fluor® 647 (sc-390314 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390314 AF680) or Alexa Fluor® 790 (sc-390314 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Separase (B-4) is recommended for detection of Separase of human origin by Western Blotting (starting dilution 1:100, 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 Separase siRNA (h): sc-72040, Separase shRNA Plasmid (h): sc-72040-SH and Separase shRNA (h) Lentiviral Particles: sc-72040-V.

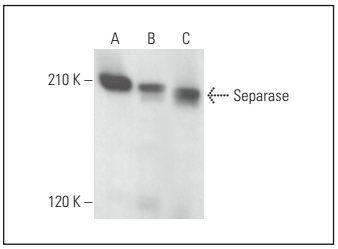
Molecular Weight of Separase: 230 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa nuclear extract: sc-2120 or K-562 whole cell lysate: sc-2203.

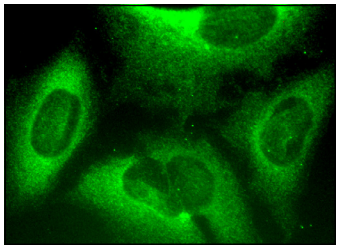
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Separase (B-4): sc-390314. Western blot analysis of Separase expression in HeLa nuclear extract (**A**) and Jurkat (**B**) and K-562 (**C**) whole cell lysates.



Separase (B-4): sc-390314. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Almeida, A.C., et al. 2022. Augmin-dependent microtubule self-organization drives kinetochore fiber maturation in mammals. Cell Rep. 39: 110610.
2. Ying, Z., et al. 2022. CCHCR1-astrin interaction promotes centriole duplication through recruitment of CEP72. BMC Biol. 20: 240.

RESEARCH USE

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

PROTOCOLS

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