



# **Separase (Separin, Caspase-like Protein ESPL1, ESP1, Extra Spindle Poles-like 1, Extra Spindle Poles-like 1 Protein, ESPL1, FLJ46492, KIAA0165, SSE)**

## **Catalog number**

S0952-01C

## **Supplier**

United States Biological

Separase is a cysteine protease that is essential for mitotic progression by separating sister chromatids. Each cell must receive one chromatid of every chromosome, during mitosis. Cohesin plays an important role in cohering sister chromatids during the prophase through anaphase stages of mitosis, making certain that genomic information is replicated accurately. As the cellular division process continues, separase destroys cohesin by means of cleavage, allowing the chromatids to separate and divide with the cell. Separase activity is highly regulated. It not only cleaves cohesin at the onset of anaphase but also cleaves itself, promoting down-regulation of separase after anaphase. Should a human cell become an aneuploid (one too many or too few chromatids), the embryo most likely will not survive. Should the embryo survive, it will most likely develop severe birth defects or later develop malignant cancers.

Separase antibodies can be used as a specific marker for centrosomes of mitotic cells. The staining of separase in centrosomes can be detected from prophase of mitosis up until anaphase.

## **Applications**

Suitable for use in Western Blot. Other applications not tested.

## **Recommended Dilution**

Optimal dilutions to be determined by the researcher.

## **Cellular Localization**

Nuclear and Centrosomal

## **Storage and Stability**

May be stored at 4°C for short-term only. For long-term storage and to avoid repeated freezing and thawing, add sterile glycerol (40-50%), aliquot and store at -20°C. Aliquots are stable for at least 12 months at -20°C. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Further dilutions can be made in assay buffer.

## **Immunogen**

Maltose-Binding Protein fusion of a C-terminal fragment of human separase (residues 1866-1996).

## **Formulation**

Supplied as a liquid in PBS, pH 7.2.

## **Purity**

Purified by Protein G affinity chromatography.

## **Specificity**



Recognizes human separase protein. Other species have not been tested.

**Product Type**

Mab

**Source**

human

**Isotype**

IgG1,k

**Grade**

Affinity Purified

**Applications**

WB

**Crossreactivity**

Hu

**Storage**

-20°C

**Reference**

1. Chestukhin, A., et al. Western blot screening for monoclonal antibodies against human separase. J. Immunol. Methods. 274:105-113, 2003. [Western blot, Human]
2. Chestukhin, A., et al. Processing, localization, and requirement of human separase for normal anaphase progression. PNAS. 100: 4574-4579, 2003. [Western blot, Immunofluorescence, Human]
3. Ross, K.E., & Cohen-Fix, O. Separase: a conserved protease separating more than just sisters. TRENDS in Cell Biology. 12(1), 2002.
4. Uhlmann, F. Separase regulation during mitosis. Biochem Soc. Symp. 70:243-251, 2003.
5. Uhlmann, F. Chromosome cohesion and separation: from men and molecules. Curr. Biol. 13:R104-R114, 2003.
6. Pellman, D., & Christman, M.F. Separase anxiety: dissolving the sister bond and more. Nature Cell Biol. 3: E207-E209, 2001.