

symplekin (E-2): sc-514260



The Power to Question

BACKGROUND

Symplekin, also known as SYMPK, SPK or SYM, is a regulatory protein that localizes to the nucleus, cytoplasm, cytoskeleton and cell junction. Expressed in a variety of tissues including testis, pancreas, stomach, liver and fetal brain, symplekin functions to mediate polyadenylation events and promote gene expression. Symplekin is thought to form a high molecular weight complex (called the tight junction complex) with proteins that are involved in polyadenylation and, once in this complex, may serve as a scaffold that recruits regulatory proteins to polyadenylation sites. In addition, symplekin functions independently and plays a role in the 3'-end maturation of histone mRNAs. Defects in the gene encoding symplekin are associated with hepatocellular carcinoma, suggesting a possible role for symplekin in tumor formation. Symplekin is expressed as two isoforms due to alternative splicing events.

REFERENCES

1. Keon, B.H., et al. 1996. Symplekin, a novel type of tight junction plaque protein. *J. Cell Biol.* 134: 1003-1018.
2. Ueki, K., et al. 1997. Chromosomal localization to 19q13.3, partial genomic structure and 5' cDNA sequence of the human symplekin gene. *Somat. Cell Mol. Genet.* 23: 229-231.
3. Takagaki, Y. and Manley, J.L. 2000. Complex protein interactions within the human polyadenylation machinery identify a novel component. *Mol. Cell. Biol.* 20: 1515-1525.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602388. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Langbein, L., et al. 2003. Tight junction-related structures in the absence of a lumen: occludin, claudins and tight junction plaque proteins in densely packed cell formations of stratified epithelia and squamous cell carcinomas. *Eur. J. Cell Biol.* 82: 385-400.
6. Barnard, D.C., et al. 2004. Symplekin and xGLD-2 are required for CPEB-mediated cytoplasmic polyadenylation. *Cell* 119: 641-651.

CHROMOSOMAL LOCATION

Genetic locus: SYMPK (human) mapping to 19q13.32; Sympk (mouse) mapping to 7 A3.

SOURCE

symplekin (E-2) is a mouse monoclonal antibody raised against amino acids 517-816 mapping within an internal region of symplekin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-514260 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

symplekin (E-2) is recommended for detection of symplekin of mouse, rat and 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 symplekin siRNA (h): sc-97297, symplekin siRNA (m): sc-153972, symplekin shRNA Plasmid (h): sc-97297-SH, symplekin shRNA Plasmid (m): sc-153972-SH, symplekin shRNA (h) Lentiviral Particles: sc-97297-V and symplekin shRNA (m) Lentiviral Particles: sc-153972-V.

symplekin (E-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

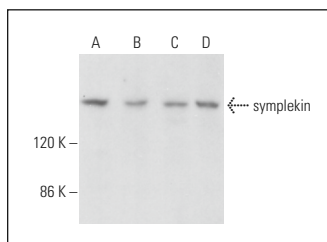
Molecular Weight of symplekin: 150 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

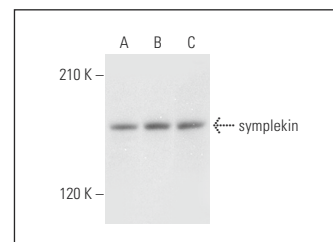
RECOMMENDED SUPPORT REAGENTS

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) 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



symplekin (E-2): sc-514260. Western blot analysis of symplekin expression in K-562 (A), Caco-2 (B), MCF7 (C) and NIH/3T3 (D) whole cell lysates.



symplekin (E-2): sc-514260. Western blot analysis of symplekin expression in COLO 320DM (A), Jurkat (B) and K-562 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kim, H.S., et al. 2022. Mammalian Ssu72 phosphatase preferentially considers tissue-specific actively transcribed gene expression by regulating RNA Pol II transcription. *Theranostics* 12: 186-206.

STORAGE

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