

SYT (h): 293T Lysate: sc-178011

BACKGROUND

The transcriptional coactivator SYT (synovial translocation protein) contains a conserved amino terminal SNH domain and a carboxy-terminal QPGY domain, which is a functioning transcriptional activating sequence. Synovial sarcoma translocation (SSX) proteins, including SSX1–5, are transcriptional repressors that contain a repressor domain in their carboxy-termini. SSX proteins are localized to the nucleus and expressed in testis and several types of cancers and, therefore, they are classified as C/T (cancer/testis) antigens. The t(x;18) translocation results in the fusion of the amino terminus of SYT to the carboxy-terminus of either SSX1 or SSX2; both fusions result in the production of transcriptional activators. SYT-SSX chimeras are detected in most synovial sarcomas. Synovial sarcomas are responsible for up to 10% of soft tissue sarcomas and are histologically characterized as either biphasic or mono-phasic. Genetic analysis indicates that biphasic synovial sarcomas contain SYT-SSX1 fusions, whereas SYT-SSX2 fusions are found in mono-phasic synovial sarcomas, providing additional distinguishing characterization of these subtypes.

REFERENCES

- Clark, J., Rocques, P.J., Crew, A.J., Gill, S., Shipley, J., Chan, A.M., Gusterson, B.A. and Cooper, C.S. 1994. Identification of novel genes, SYT and SSX, involved in the t(X;18)(p11.2;q11.2) translocation found in human synovial sarcoma. *Nat. Genet.* 7: 502-508.
- Crew, A.J., Clark, J., Fisher, C., Gill, S., Grimer, R., Chand, A., Shipley, J., Gusterson, B.A. and Cooper, C.S. 1995. Fusion of SYT to two genes, SSX1 and SSX2, encoding proteins with homology to the Krüppel-associated box in human synovial sarcoma. *EMBO J.* 14: 2333-2340.
- Gure, A.O., Tureci, O., Sahin, U., Tsang, S., Scanlan, M.J., Jager, E., Knuth, A., Pfreundschuh, M., Old, L.J. and Chen, Y.T. 1997. SSX: a multigene family with several members transcribed in normal testis and human cancer. *Int. J. Cancer* 72: 965-971.
- dos Santos, N.R., de Bruijn, D.R., Balemans, M., Janssen, B., Gartner, F., Lopes, J.M., de Leeuw, B. and Geurts van Kessel, A. 1997. Nuclear localization of SYT, SSX and the synovial sarcoma-associated SYT-SSX fusion proteins. *Hum. Mol. Genet.* 6: 1549-1558.
- Tureci, O., Chen, Y.T., Sahin, U., Gure, A.O., Zwick, C., Villena, C., Tsang, S., Seitz, G., Old, L.J. and Pfreundschuh, M. 1998. Expression of SSX genes in human tumors. *Int. J. Cancer* 77: 19-23.
- Kawai, A., Woodruff, J., Healey, J.H., Brennan, M.F., Antonescu, C.R. and Ladanyi, M. 1998. SYT-SSX gene fusion as a determinant of morphology and prognosis in synovial sarcoma. *N. Engl. J. Med.* 338: 153-160.
- Nilsson, G., Skytting, B., Xie, Y., Brodin, B., Perfekt, R., Mandahl, N., Lundeberg, J., Uhlen, M. and Larsson, O. 1999. The SYT-SSX1 variant of synovial sarcoma is associated with a high rate of tumor cell proliferation and poor clinical outcome. *Cancer Res.* 59: 3180-3184.

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.

CHROMOSOMAL LOCATION

Genetic locus: SS18 (human) mapping to 18q11.2.

PRODUCT

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

APPLICATIONS

SYT (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SYT 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.

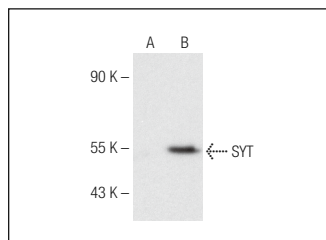
SYT (E-5): sc-374299 is recommended as a positive control antibody for Western Blot analysis of enhanced human SYT expression in SYT transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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



SYT (E-5): sc-374299. Western blot analysis of SYT expression in non-transfected: sc-117752 (A) and human SYT transfected: sc-178011 (B) 293T whole cell lysates.

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.