

FUS/TLS (15): sc-135911

BACKGROUND

EWS and FUS/TLS are nuclear RNA-binding proteins. As a result of chromosome translocation, the EWS gene is fused to a variety of transcription factors, including ATF-1, in human neoplasias. In the Ewing family of tumors, the N-terminal domain of EWS is fused to the DNA-binding domain of various Ets transcription factors, including Fli-1, ETV1 and FEV. The EWS/Fli-1 chimeric protein acts as a more potent transcriptional activator than Fli-1 and can promote cell transformation. In human myxoid liposarcomas and myeloid leukemias, chromosomal translocation results in the fusion of the N-terminal region of FUS/TLS with the open reading frame of CHOP. In normal cells, FUS/TLS binds to the DNA-binding domains of nuclear steroid receptors and is also present in subpopulations of TFIIID complexes, indicating a potential role for FUS/TLS in the processing of primary transcripts that are generated in response to hormone-induced transcription.

REFERENCES

1. Delattre, O., et al. 1992. Gene fusion with an ETS DNA-binding domain caused by chromosome translocation in human tumours. *Nature* 359: 162-165.
2. May, W.A., et al. 1993. The Ewing's sarcoma EWS/Fli-1 fusion gene encodes a more potent transcriptional activator and is a more powerful transforming gene than Fli-1. *Mol. Cell. Biol.* 13: 7393-7398.
3. Crozat, A., et al. 1993. Fusion of CHOP to a novel RNA-binding protein in human myxoid liposarcoma. *Nature* 363: 640-644.
4. Jeon, I.S., et al. 1995. A variant Ewing's sarcoma translocation (7;22) fuses the EWS gene to the ETS gene ETV1. *Oncogene* 10: 1229-1234.
5. Fujimura, Y., et al. 1996. The EWS-ATF-1 gene involved in malignant melanoma of soft parts with t(12;22) chromosome translocation, encodes a constitutive transcriptional activator. *Oncogene* 12: 159-167.
6. Peter, M., et al. 1997. A new member of the ETS family fused to EWS in Ewing tumors. *Oncogene* 14: 1159-1164.
7. Powers, C.A., et al. 1998. TLS (translocated-in-liposarcoma) is a high-affinity interactor for steroid, thyroid hormone, and retinoid receptors. *Mol. Endocrinol.* 12: 4-18.

CHROMOSOMAL LOCATION

Genetic locus: FUS (human) mapping to 16p11.2; Fus (mouse) mapping to 7 F3.

SOURCE

FUS/TLS (15) is a mouse monoclonal antibody raised against amino acids 2-117 of FUS/TLS of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

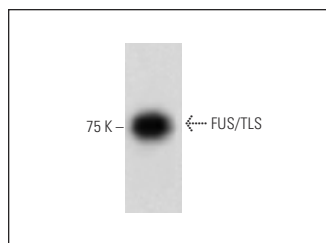
FUS/TLS (15) is recommended for detection of FUS/TLS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for FUS/TLS siRNA (h): sc-40563, FUS/TLS siRNA (m): sc-40564, FUS/TLS shRNA Plasmid (h): sc-40563-SH, FUS/TLS shRNA Plasmid (m): sc-40564-SH, FUS/TLS shRNA (h) Lentiviral Particles: sc-40563-V and FUS/TLS shRNA (m) Lentiviral Particles: sc-40564-V.

Molecular Weight of FUS/TLS: 75 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, THP-1 cell lysate: sc-2238 or HL-60 whole cell lysate: sc-2209.

DATA



FUS/TLS (15): sc-135911. Western blot analysis of FUS/TLS expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Edlmann, M.S.J., et al. 2009. Structural basis and specificity of human otubain 1-mediated deubiquitination. *Biochem. J.* 418: 379-390.
2. Shelkova, T.A., et al. 2014. Compromised paraspeckle formation as a pathogenic factor in FUSopathies. *Hum. Mol. Genet.* 23: 2298-2312.

RESEARCH USE

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

PROTOCOLS

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



See **FUS/TLS (4H11): sc-47711** for FUS/TLS antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.