

FUS/TLS (D-8): sc-373888

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. Crozat, A., et al. 1993. Fusion of CHOP to a novel RNA-binding protein in human myxoid liposarcoma. *Nature* 363: 640-644.

CHROMOSOMAL LOCATION

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

SOURCE

FUS/TLS (D-8) is a mouse monoclonal antibody raised against amino acids 451-526 of FUS/TLS 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.

APPLICATIONS

FUS/TLS (D-8) is recommended for detection of FUS/TLS 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), immunohistochemistry (including paraffin-embedded sections) (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 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.

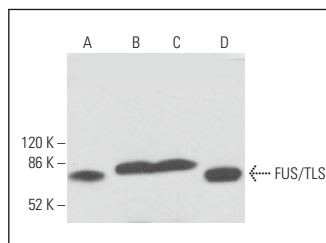
Molecular Weight of FUS/TLS: 75 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, THP-1 cell lysate: sc-2238 or U-698-M whole cell lysate: sc-364799.

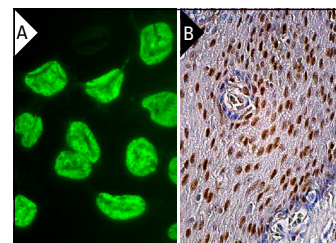
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



FUS/TLS (D-8): sc-373888. Western blot analysis of FUS/TLS expression in THP-1 (A), U-698-M (B) and SJRH30 (C) whole cell lysates and HEL 92.1.7 nuclear extract (D).



FUS/TLS (D-8): sc-373888. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

1. Castanotto, D., et al. 2018. A stress-induced response complex (SIRC) shuttles miRNAs, siRNAs, and oligonucleotides to the nucleus. *Proc. Natl. Acad. Sci. USA* 115: E5756-E5765.
2. Sundaram Kumar, M., et al. 2023. Interactions between FUS and the C-terminal domain of Nup62 are sufficient for their co-phase separation into amorphous assemblies. *J. Mol. Biol.* 435: 167972.

STORAGE

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

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.



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.