Revision 1

#4885 Store at -20C

FUS/TLS Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	70	Rabbit	#P35637	2521

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

FUS/TLS Antibody recognizes endogenous levels of total FUS/TLS protein.

Species predicted to react based on 100% sequence homology

Hamster, Bovine, Horse, Guinea Pig

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly272 of human TLS/FUS protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

FUS/TLS (fused in sarcoma/translocated in liposarcoma) was initially identified by investigators as a component of fusion proteins found in a variety of cancers, such as myxoid liposarcoma, acute myeloid leukemia, and Ewing's tumor (1). FUS/TLS fusion with the DNA-binding domain of transcription activators, such as CHOP and ERG, leads to aberrant transcription of target genes that is thought by researchers to lead to tumor development (1-5). FUS/TLS is involved in a wide range of RNA processing events, such as pre-mRNA splicing, mRNA transcription, and miRNA processing (1,6). In addition to its role in RNA metabolism, FUS/TLS maintains genomic stability and co-regulates gene expression by interacting with various transcription factors such as nuclear receptors, YB-1, p65 subunit of NF-κB, TFIID, and RUNX2 (1,6,7). More recently, researchers have found several mutations of FUS/TLS in ALS (amyotrophic lateral sclerosis) and FTLD (frontotemporal lobar degeneration) patients that causes cytoplasmic mislocalization of FUS/TLS (6,8-12).

Background References

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5. Prasad, D.D. et al. (1994) *Oncogene* 9, 3717-29.
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7. Baechtold, H. et al. (1999) *J Biol Chem* 274, 34337-42.
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9. Vance, C. et al. (2009) *Science* 323, 1208-11.
10. Van Langenhove, T. et al. (2010) *Neurology* 74, 366-71.
11. Da Cruz, S. and Cleveland, D.W. (2011) *Curr Opin Neurobiol* 21, 904-19.
12. Hock, E.M. et al. (2018) *Cell Rep* 24, 987-1000.e7.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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