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TLS/FUS Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP58069

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P35637
Reactivity	Rat, Pig, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	53426
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human TLS
Epitope Specificity	421-526/526
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus.
SIMILARITY	Belongs to the RRM TET family.Contains 1 RanBP2-type zinc finger. Contains 1 RRM (RNA recognition motif) domain.
SUBUNIT	Component of nuclear riboprotein complexes. Interacts with ILF3, TDRD3 and SF1. Interacts through its C-terminus with SFRS13A. Interacts with OTUB1 and SARNP.
Post-translational modifications	Arg-216 and Arg-218 are dimethylated, probably to asymmetric dimethylarginine.
DISEASE	Note=A chromosomal aberration involving FUS is found in a patient with malignant myxoid liposarcoma. Translocation t(12;16)(q13;p11) with DDIT3.Note=A chromosomal aberration involving FUS is a cause of acute myeloid leukemia (AML). Translocation t(16;21)(p11;q22) with ERG.Angiomatoid fibrous histiocytoma (AFH) [MIM:612160]: A distinct variant of malignant fibrous histiocytoma that typically occurs in children and adolescents and is manifest by nodular subcutaneous growth. Characteristic microscopic features include lobulated sheets of histiocyte-like cells intimately associated with areas of hemorrhage and cystic pseudovascular spaces, as well as a striking cuffing of inflammatory cells, mimicking a lymph node metastasis. Note=The disease may be caused by mutations affecting the gene represented in this entry. A chromosomal aberration involving FUS is found in a patient with angiomatoid fibrous histiocytoma. Translocation t(12;16)(q13;p11.2) with ATF1 generates a chimeric FUS/ATF1 protein.Amyotrophic lateral sclerosis 6 (ALS6) [MIM:608030]: A neurodegenerative disorder affecting upper motor neurons in the brain and lower motor neurons in the brain stem and spinal cord, resulting in fatal paralysis. Sensory abnormalities are absent. The pathologic hallmarks of the disease include pallor of the corticospinal tract due to loss of motor neurons, presence of ubiquitin-positive inclusions within surviving motor neurons, and deposition of pathologic aggregates. The etiology of amyotrophic lateral sclerosis is likely to be multifactorial, involving both genetic and environmental factors. The disease is inherited in 5-10% of the cases.

	Note=The disease is caused by mutations affecting the gene represented in this entry.Tremor, hereditary essential 4 (ETM4) [MIM:614782]: A common movement disorder mainly characterized by postural tremor of the arms. Head, legs, trunk, voice, jaw, and facial muscles also may be involved. The condition can be aggravated by emotions, hunger, fatigue and temperature extremes, and may cause a functional disability or even incapacitation. Inheritance is autosomal dominant. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a multifunctional protein component of the heterogeneous nuclear ribonucleoprotein (hnRNP) complex. The hnRNP complex is involved in pre-mRNA splicing and the export of fully processed mRNA to the cytoplasm. This protein belongs to the FET family of RNA-binding proteins which have been implicated in cellular processes that include regulation of gene expression, maintenance of genomic integrity and mRNA/microRNA processing. Alternative splicing results in multiple transcript variants. Defects in this gene result in amyotrophic lateral sclerosis type 6. [provided by RefSeq].

Additional Information

Gene ID	2521
Other Names	RNA-binding protein FUS, 75 kDa DNA-pairing protein, Oncogene FUS, Oncogene TLS, POMp75, Translocated in liposarcoma protein, FUS, TLS
Target/Specificity	Ubiquitous.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	FUS
Synonyms	TLS
Function	DNA/RNA-binding protein that plays a role in various cellular processes such as transcription regulation, RNA splicing, RNA transport, DNA repair and damage response (PubMed:27731383). Binds to ssRNA containing the consensus sequence 5'-AGGUAA-3' (PubMed:21256132). Binds to nascent pre-mRNAs and acts as a molecular mediator between RNA polymerase II and U1 small nuclear ribonucleoprotein thereby coupling transcription and splicing (PubMed:26124092). Also binds its own pre- mRNA and autoregulates its expression; this autoregulation mechanism is mediated by non-sense-mediated decay (PubMed:24204307). Plays a role in DNA repair mechanisms by promoting D-loop formation and homologous recombination during DNA double-strand break repair (PubMed:10567410). In neuronal cells, plays crucial roles in dendritic spine formation and stability, RNA

	transport, mRNA stability and synaptic homeostasis (By similarity).
Cellular Location	Nucleus Note=Displays a punctate pattern inside the nucleus and is excluded from nucleoli.
Tissue Location	Ubiquitous.