abcam

Product datasheet

Recombinant Human EWSR1 protein ab114696

1 Image

Overview

Product name	Recombinant Human EWSR1 protein
Protein length	Protein fragment

Description

Nature	Recombinant
Source	Wheat germ
Amino Acid Sequence	
Accession	Q01844
Species	Human
Sequence	SDNSAIYVQGLNDSVTLDDLADFFKQCGVVKMNKRTG QPMIHIYLDKETG KPKGDATVSYEDPPTAKAAVEWFDGKDFQGSKLKVS LARKKPPMNS
Molecular weight	36 kDa including tags
Amino acids	358 to 453

Specifications

Our Abpromise guarantee covers the use of **ab114696** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE Western blot ELISA
Form	Liquid
Additional notes	Protein concentration is above or equal to 0.05 mg/ml.

Preparation and Storage

Stability and Storage	Shipped on dry ice. Upon delivery aliquot and store at -80ºC. Avoid freeze / thaw cycles. pH: 8.00

Constituents: 0.3% Glutathione, 0.79% Tris HCl

General Info

Function

Might normally function as a repressor. EWS-fusion-proteins (EFPS) may play a role in the tumorigenic process. They may disturb gene expression by mimicking, or interfering with the normal function of CTD-POLII within the transcription initiation complex. They may also contribute to an aberrant activation of the fusion protein target genes.

Tissue specificity

Ubiquitous.

Involvement in disease

Defects in EWSR1 are a cause of Ewing sarcoma (ES) [MIM:612219]. A highly malignant, metastatic, primitive small round cell tumor of bone and soft tissue that affects children and adolescents. It belongs to the Ewing sarcoma family of tumors, a group of morphologically heterogeneous neoplasms that share the same cytogenetic features. They are considered neural tumors derived from cells of the neural crest. Ewing sarcoma represents the less differentiated form of the tumors. Note=Chromosomal aberrations involving EWSR1 are found in patients with Ewing sarcoma. Translocation t(11;22)(q24;q12) with FLI1; translocation t(7;22)(p22;q12) with ETV1; translocation t(21;22)(q22;q12) with ERG; translocation t(9;22)(q22-31;q11-12) with NR4A3. Translocation t(2;21;22)(q23;q22;q12) that forms a EWSR1-FEV fusion protein with potential oncogenic activity.
Note=A chromosomal aberration involving EWSR1 is associated with desmoplastic small round cell tumor (DSRCT). Translocation t(11;22)(p13;q12) with WT1.
Note=A chromosomal aberration involving EWSR1 is associated with malignant melanoma of soft parts (MMSP). Translocation t(12;22)(q13;q12) with ATF-1. Malignant melanoma of soft parts, also known as soft tissue clear cell sarcoma, is a rare tumor developing in tendons and aponeuroses.
Note=A chromosomal aberration involving EWSR1 is associated with small round cell sarcoma. Translocation t(11;22)(p36.1;q12) with PATZ1.
Defects in EWSR1 may be a cause of 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=Chromosomal aberrations involving EWSR1 are found in patients with angiomatoid fibrous histiocytoma. Translocation t(12;22)(q13;q12) with ATF1 generates a chimeric EWSR1/ATF1 protein. Translocation t(2;22)(q33;q12) with CREB1 generates a EWSR1/CREB1 fusion gene that is most common genetic abnormality in this tumor type.
Note=EFPS arise due to chromosomal translocations in which EWSR1 is fused to a variety of cellular transcription factors. EFPS are very potent transcriptional activators dependent on the EAD and a C-terminal DNA-binding domain contributed by the fusion partner. The spectrum of malignancies associated with EFPS are thought to arise via EFP-induced transcriptional deregulation, with the tumor phenotype specified by the EWSR1 fusion partner and cell type. Transcriptional repression of the transforming growth factor beta type II receptor (TGF beta RII) is an important target of the EWS-FLI1, EWS-ERG, or EWS-ETV1 oncogene.

Sequence similarities

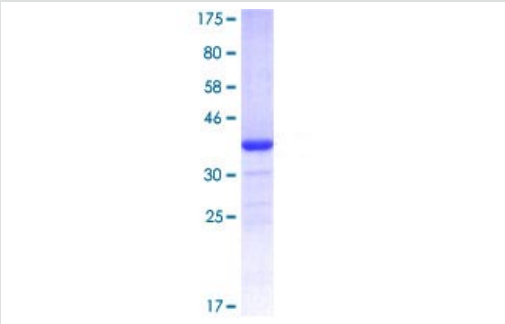
Belongs to the RRM TET family.
Contains 1 IQ domain.
Contains 1 RanBP2-type zinc finger.
Contains 1 RRM (RNA recognition motif) domain.

Domain

EWS activation domain (EAD) functions as a potent activation domain in EFPS. EWSR1 binds POLR2C but not POLR2E or POLR2G, whereas the isolated EAD binds POLR2E and POLR2G but not POLR2C. Cis-linked RNA-binding domain (RBD) can strongly and specifically repress

	trans-activation by the EAD.
Post-translational modifications	Phosphorylated; calmodulin-binding inhibits phosphorylation of Ser-266. Highly methylated on arginine residues. Methylation is mediated by PRMT1 and, at lower level by PRMT8.
Cellular localization	Nucleus. Cytoplasm. Cell membrane. Relocates from cytoplasm to ribosomes upon PTK2B/FAK2 activation.

Images



SDS-PAGE - Recombinant Human EWSR1 protein (ab114696)

12.5% SDS-PAGE showing ab114696 at approximately 36.19 kDa stained with Coomassie Blue.

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