TGFBR1 Blocking Peptide (Center) Blocking Peptide

PRODUCT OVERVIEW

Product Name	TGFBR1, Blocking Peptide
Full Product Name	TGFBR1 Blocking Peptide (Center)
Product Gene Name	TGFBR1 blocking peptide
Product Synonym Gene Name	ALK5; SKR4
Product Synonym Names	TGF-beta receptor type-1; TGFR-1; Activin A receptor type II-like protein kinase of 53kD; Activin receptor-like kinase 5; ALK-5; ALK5; Serine/threonine-protein kinase receptor R4; SKR4; TGF-beta type I receptor; Transforming growth factor-beta receptor type I; TGF-beta receptor type I; TbetaR-I; TGFBR1; ALK5; SKR4
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 1 mg/ml.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	TGFBR1 peptide (MBS9229067) is used for blocking the activity of TGFBR1 antibody (MBS9203976)
Molecular Weight	47,690 Da
OMIM	132800
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell junction, tight junction
Tissue Location	Found in all tissues examined, most abundant in placenta and least abundant in brain and heart
Related Product Information for TGFBR1 blocking peptide	Transmembrane serine/threonine kinase forming with the TGF-beta type II serine/threonine kinase receptor, TGFBR2, the non-promiscuous receptor for the TGF-beta cytokines TGFB1, TGFB2 and TGFB3. Transduces the TGFB1, TGFB2 and TGFB3 signal from the cell surface to the cytoplasm and is thus regulating a plethora of physiological and pathological processes including cell cycle arrest in epithelial and hematopoietic cells, control of mesenchymal cell proliferation and differentiation, wound healing, extracellular matrix production, immunosuppression and carcinogenesis. The formation of the receptor complex composed of 2 TGFBR1 and 2 TGFBR2 molecules symmetrically bound to the cytokine dimer results in the phosphorylation and the activation of TGFBR1 by the constitutively active TGFBR2. Activated TGFBR1 phosphorylates SMAD2 which dissociates from the receptor and interacts with SMAD4. The SMAD2-SMAD4 complex is subsequently translocated to the nucleus where it modulates the transcription of the TGF-beta-regulated genes. This constitutes the canonical SMAD-dependent TGF-beta signaling cascade. Also involved in non- canonical, SMAD-independent TGF-beta signaling pathways. For instance, TGFBR1 induces TRAF6 autoubiquitination which in turn results in MAP3K7 ubiquitination and activation to trigger apoptosis. Also regulates epithelial to mesenchymal transition through a SMAD-independent signaling pathway through PARD6A phosphorylation and activation.
Other Notes	Small volumes of TGFBR1 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for TGFBR1 purchase	MBS9229067 is a blocking peptide targeting TGFBR1. Also known as TGFBR1 Blocking Peptide (Center).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TGFBR1. It may not necessarily be applicable to this product.

NCBI GI #	547777
NCBI GeneID	7046
NCBI Accession #	P36897.1

UniProt Primary Accession #	P36897
UniProt Secondary Accession #	Q6IR47; Q706C0; Q706C1
UniProt Related Accession #	P36897
NCBI Official Full Name	TGF-beta receptor type-1
NCBI Official Synonym Full Names	transforming growth factor beta receptor 1
NCBI Official Symbol	TGFBR1
NCBI Official Synonym Symbols	AAT5; ALK5; ESS1; LDS1; MSSE; SKR4; ALK-5; LDS1A; LDS2A; TGFR-1; ACVRLK4; tbetaR-I
UniProt Protein Name	TGF-beta receptor type-1
UniProt Synonym Protein Names	Activin A receptor type II-like protein kinase of 53kD; Activin receptor-like kinase 5; ALK-5; ALK5; Serine/threonine-protein kinase receptor R4; SKR4; TGF-beta type I receptor; Transforming growth factor-beta receptor type I; TGF-beta receptor type I; TbetaR-I
Protein Family	TGF-beta receptor
UniProt Gene Name	TGFBR1
UniProt Synonym Gene Names	ALK5; SKR4; TGFR-1; ALK-5; ALK5; SKR4; TGF-beta receptor type I; TbetaR-I
UniProt Entry Name	TGFR1_HUMAN
NCBI Protein Information	TGF-beta receptor type-1
NCBI Summary for TGFBR1	The protein encoded by this gene forms a heteromeric complex with type II TGF-beta receptors when bound to TGF-beta, transducing the TGF-beta signal from the cell surface to the cytoplasm. The encoded protein is a serine/threonine protein kinase. Mutations in this gene have been associated with Loeys-Dietz aortic aneurysm syndrome (LDAS). Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Aug 2008]
UniProt Comments for TGFBR1	Transmembrane serine/threonine kinase forming with the TGF-beta type II serine/threonine kinase receptor, TGFBR2, the non-promiscuous receptor for the TGF-beta cytokines TGFB1, TGFB2 and TGFB3. Transduces the TGFB1, TGFB2 and TGFB3 signal from the cell surface to the cytoplasm and is thus regulating a plethora of physiological and pathological processes including cell cycle arrest in epithelial and hematopoietic cells, control of mesenchymal cell proliferation and differentiation, wound healing, extracellular matrix production, immunosuppression and carcinogenesis. The formation of the receptor complex composed of 2 TGFBR1 and 2 TGFBR2 molecules symmetrically bound to the cytokine dimer results in the phosphorylation and the activation of TGFBR1 by the constitutively active TGFBR2. Activated TGFBR1 phosphorylates SMAD2 which dissociates from the receptor and interacts with SMAD4. The SMAD2-SMAD4 complex is subsequently translocated to the nucleus where it modulates the transcription of the TGF-beta-regulated genes. This constitutes the canonical SMAD-dependent TGF-beta signaling cascade. Also involved in non-canonical, SMAD-independent TGF-beta signaling pathways. For instance, TGFBR1 induces TRAF6 autoubiquitination which in turn results in MAP3K7 ubiquitination and activation to trigger apoptosis. Also regulates epithelial to mesenchymal transition through a SMAD-independent signaling pathway through PARD6A phosphorylation and activation.
Research Articles on TGFBR1	**1.** Short hairpin-mediated downregulation of either ALK5 or ALK1 resulted in a strong inhibition of TGFbeta-induced chondrogenesis.
Precautions	All of MyBioSource's Products are for scientific laboratory research purposes and are not for diagnostic, therapeutics, prophylactic or in vivo use. Through your purchase, you expressly represent and warrant to MyBioSource that you will properly test and use any Products purchased from MyBioSource in accordance with industry standards. MyBioSource and its authorized distributors reserve the right to refuse to process any order where we reasonably believe that the intended use will fall outside of our acceptable guidelines.
Disclaimer	While every efforts were made to ensure the accuracy of the information provided in this datasheet, MyBioSource will not be liable for any omissions or errors contained herein. MyBioSource reserves the right to make changes to this datasheet at any time without prior notice. It is the responsibility of the customer to report product performance issues to MyBioSource within 30 days of receipt of the product. Please visit our Terms & Conditions page for more information.

Product Note	Select online data sheet information is drawn from bioinformatics databases, occasionally resulting in ambiguous or non-relevant product information. It is the responsibility of the customer to review, verify, and evaluate the information to make sure it matches their requirements before purchasing the kit. Our ELISA Kit assays are dynamic research tools and sometimes they may be updated and improved. If the format of this assay is important to you then please request the current manual or contact our technical support team with a presales inquiry before placing an order. We will confirm the current details of the assay. We cannot guarantee the sample manual posted online is the most current manual, it is intended to serve as an example only. Please refer to the instructions For Use provided with the assay kit for precise details.

For Research Use Only. Not for use in diagnostic or therapeutic procedures.

MyBioSource | Tel: +1.858.633.0165 | Fax: +1.858.633.0166 | mybiosource.com/contact-us
Online datasheet: https://www.mybiosource.com/blocking-peptide/tgfbr1/9229067