SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

Rabbit Anti-TGF beta Receptor II antibody

SL0117R

Product Name	TGF beta Receptor II
Chinese Name	转移生长因子 β 受体 2 抗体
Alias	TGF-beta receptor type-2; TGF beta R2; TGFBR2; AAT 3; AAT3; FAA 3; FAA3; HNPCC6; MFS 2; MFS2; RIIC; TAAD 2; TAAD2; TbetaR II; TGF beta receptor type 2; TGF beta receptor type II; TGF beta type II receptor; TGFB R2; TGFbeta RII; TGFBR 2; TGFR 2; TGFR2; Transforming growth factor beta receptor II; Transforming growth factor beta receptor type II. TGF-βRII; TGFβRII; TGF βRII; TGFβ RII.
Research Area	Tumour Cell biology Neurobiology Signal transduction Growth factors and hormones Kinases and Phosphatases The cell membrane 受体 Cell differentiation
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human,Mouse,Rat (predicted:Chicken,Pig,Cow,Horse,Rabbit,Sheep)
Applications	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	62kDa
Cellular localization	The cell membrane
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human TGF beta Receptor II: 241-330/567 <Cytoplasmic>
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw

cycles.

Attention

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

PubMed

PubMed

Product Detail

This gene encodes a member of the Ser/Thr protein kinase family and the TGFB receptor subfamily. The encoded protein is a transmembrane protein that has a protein kinase domain, forms a heterodimeric complex with another receptor protein, and binds TGF-beta. This receptor/ligand complex phosphorylates proteins, which then enter the nucleus and regulate the transcription of a subset of genes related to cell proliferation. Mutations in this gene have been associated with Marfan Syndrome, Loeys-Deitz Aortic Aneurysm Syndrome, and the development of various types of tumors. Alternatively spliced transcript variants encoding different isoforms have been characterized.

Function:

Transmembrane serine/threonine kinase forming with the TGF-beta type I serine/threonine kinase receptor, TGFBR1, 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 TGFRB1 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.

Subunit:

Homodimer. Heterohexamer; TGFB1, TGFB2 and TGFB3 homodimeric ligands assemble a functional receptor composed of two TGFBR1 and TGFBR2 heterodimers to form a ligand-receptor heterohexamer. The respective affinity of TGFRB1 and TGFRB2 for the ligands may modulate the kinetics of assembly of the receptor and may explain the different biological activities of TGFB1, TGFB2 and TGFB3. Interacts with DAXX. Interacts with TCTEX1D4. Interacts with ZFYVE9; ZFYVE9 recruits SMAD2 and SMAD3 to the TGF-beta receptor.

Subcellular Location:
Cell membrane; Single-pass type I membrane protein.

Post-translational modifications:
Phosphorylated on a Ser/Thr residue in the cytoplasmic domain.

DISEASE:
Defects in TGFBR2 are the cause of hereditary non-polyposis colorectal cancer type 6 (HNPCC6) [MIM:614331]. Mutations in more than one gene locus can be involved alone or in combination in the production of the HNPCC phenotype (also called Lynch syndrome). Most families with clinically recognized HNPCC have mutations in either MLH1 or MSH2 genes. HNPCC is an autosomal, dominantly inherited disease associated with marked increase in cancer susceptibility. It is characterized by a familial predisposition to early onset colorectal carcinoma (CRC) and extra-colonic cancers of the gastrointestinal, urological and female reproductive tracts. HNPCC is reported to be the most common form of inherited colorectal cancer in the Western world, and accounts for 15% of all colon cancers. Cancers in HNPCC originate within benign neoplastic polyps termed adenomas. Clinically, HNPCC is often divided into two subgroups. Type I: hereditary predisposition to colorectal cancer, a young age of onset, and carcinoma observed in the proximal colon. Type II: patients have an increased risk for cancers in certain tissues such as the uterus, ovary, breast, stomach, small intestine, skin, and larynx in addition to the colon. Diagnosis of classical HNPCC is based on the Amsterdam criteria: 3 or more relatives affected by colorectal cancer, one a first degree relative of the other two; 2 or more generation affected; 1 or more colorectal cancers presenting before 50 years of age; exclusion of hereditary polyposis syndromes. The term 'suspected HNPCC' or 'incomplete HNPCC' can be used to describe families who do not or only partially fulfill the Amsterdam criteria, but in whom a genetic basis for colon cancer is strongly suspected. HNPCC6 is a type of colorectal cancer complying with the clinical criteria of HNPCC, except that the onset of cancer was beyond 50 years of age in all cases.

Similarity:
Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. TGFB receptor subfamily.
Contains 1 protein kinase domain.

SWISS:
P37173

Gene ID:

7048

Database links:

Entrez Gene: 7048 Human

Entrez Gene: 21813 Mouse

Omim: 190182 Human

SwissProt: P37173 Human

SwissProt: Q62312 Mouse

Unigene: 604277 Human

Unigene: 82028 Human

Unigene: 172346 Mouse

The cell membrane 受体（Membrane Receptors)
TGFβR2 及家族在进化过程中结构和功能高度保守。参与 cell factor 信号传导，调节多种细胞的生长、分化，在胚胎发育、组织器官形态发生、细胞的分化、增值及免疫调节等方面都起着重要作用。此抗体主要用于散发性胃癌、结肠癌及 T 细胞淋巴瘤和头颈部 Tumour 方面的研究。