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Anti-ALK5 Antibody

Mouse monoclonal antibody to ALK5
Catalog # AP61610

Product Information

Application	IHC
Primary Accession	P36897
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	55960

Additional Information

Gene ID	7046
Other Names	ALK5; SKR4; 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
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within human ALK5. The exact sequence is proprietary.
Dilution	IHC~~1:100~500
Format	Mouse IgG2a. Liquid in PBS containing 50% glycerol, 0.2% BSA and 0.09% (W/V) sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	TGFBR1
Synonyms	ALK5, SKR4
Function	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 (PubMed:33914044). 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.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell junction, tight junction. Cell surface. Membrane raft
Tissue Location	Found in all tissues examined, most abundant in placenta and least abundant in brain and heart. Expressed in a variety of cancer cell lines (PubMed:25893292).

Background

KLH-conjugated synthetic peptide encompassing a sequence within human ALK5. The exact sequence is proprietary.