

## Product datasheet for **DM3529P**

### Acvr1b Rat Monoclonal Antibody [Clone ID: 6J28]

#### Product data:

Product Type:	Primary Antibodies
Clone Name:	6J28
Applications:	WB
Recommended Dilution:	<b>Western Blot:</b> 1/500-1/1000.
Reactivity:	Mouse
Host:	Rat
Isotype:	IgG2
Clonality:	Monoclonal
Immunogen:	Recombinant ALK4 extracellular domain.
Specificity:	This antibody detects Mouse ALK4 (Activin RIB), but not ALK2 (activin RIA) in western blots. Other species not tested.
Formulation:	0.2 µm filtered PBS solution State: Purified State: Lyophilized purified IgG fraction of the Culture Supernatant
Reconstitution Method:	Restore with 200µl sterile PBS and the final concentration is 500µg/ml.
Purification:	Protein A/G Affinity Chromatography
Conjugation:	Unconjugated
Storage:	Prior to reconstitution store at 2-8°C. Following reconstitution store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Gene Name:	activin A receptor, type 1B
Database Link:	<a href="#">Entrez Gene 11479 Mouse Q61271</a>



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**Background:**

Activins are dimeric growth and differentiation factors which belong to the transforming growth factor beta (TGF beta) superfamily of structurally related signaling proteins. Activins signal through a heteromeric complex of receptor serine kinases which include at least two type I (I and IB) and two type II (II and IIB) receptors. These receptors are all transmembrane proteins, composed of a ligand binding extracellular domain with a cysteine rich region, a transmembrane domain, and a cytoplasmic domain with predicted serine/threonine specificity. Type I receptors are essential for signaling, and type II receptors are required for binding ligands and for expression of type I receptors.

Activin, a disulfide-linked homodimeric protein is secreted by Sertoli cells in the testis and granulosa cells in the ovary. In early studies, this peptide was thought to be an inhibin and not recognized as a unique compound. Activins and inhibins are members of the TGF-beta superfamily due to amino acid homology with respect to the conservation of 7 of the 9 cysteine residues common to all TGF-beta forms. Activins are homodimers or heterodimers of the various beta subunit isoforms, while inhibins are heterodimers of a unique alpha subunit and one of the various beta subunits. Five beta subunits have been cloned (mammalian betaA, betaB, betaC, betaE, and *Xenopus* betaD). The activin/inhibin nomenclature reflects the subunit composition of the proteins: activin A (betaA-betaA), activin B (betaB-betaB), activin AB (betaB-betaA), inhibin A (alpha-betaA), and inhibin B (alpha-betaB).

Activins have a wide range of biological activities including mesoderm induction, neural cell differentiation, bone remodeling, hematopoiesis, and reproductive physiology. Activins are also involved in growth and differentiation of several tissues from different species. This protein also plays a key role in the production and regulation of hormones such as FSH, LH, GnRH, and ACTH. Activin influences erythropoiesis and the potentiation of erythroid colony formation, oxytocin secretion, paracrine, and autocrine regulation. Similar to other TGF-beta family members, activins exert their biological activities through the effects of the heterodimeric complex composed of two membrane spanning serine-threonine kinases designated type I and type II receptors. Activin type I and type II receptors are distinguished by the level of sequence homology of their kinase domains and other structural and functional features.

**Synonyms:**

ACTR-IB, ACVRLK4, ALK4, Activin receptor type IB, SKR2