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SCUBE3 Antibody

Catalog # ASC11167

Product Information

Application	E, IHC-P
Primary Accession	Q8IX30
Other Accession	NP_689966, 31377568
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	109282
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SCUBE3 antibody can be used for detection of SCUBE3 by immunohistochemistry at 5 □g/mL.

Additional Information

Gene ID	222663
Other Names	Signal peptide, CUB and EGF-like domain-containing protein 3, SCUBE3 (HGNC:13655)
Target/Specificity	SCUBE3;
Reconstitution & Storage	SCUBE3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	SCUBE3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SCUBE3 (HGNC:13655)
Function	Is a positive regulator of the BMP signaling pathway, required for proper chondrogenesis, osteogenesis and skeletal development. It acts as a coreceptor for BMP ligands, particularly BMP2 and BMP4, facilitating their interactions with BMP type I receptors (PubMed:33308444). It is required for ligand-induced recruitment of BMP receptors to lipid rafts (By similarity). Binds to TGFBR2 and activates TGFB signaling. In lung cancer cells, could serve as an endogenous autocrine and paracrine ligand of TGFBR2, which could regulate TGFBR2 signaling and hence modulate epithelial-mesenchymal transition and cancer progression.
Cellular Location	Secreted. Cell surface

Tissue Location	Highly expressed in osteoblasts. In normal lung, mainly expressed in bronchial epithelial cells. Tends to be up- regulated in lung cancer cells.

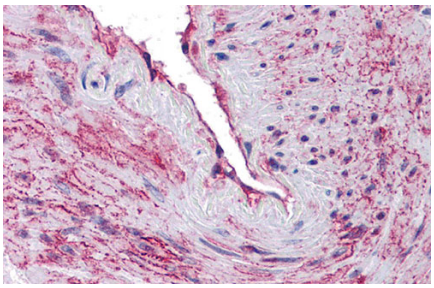
Background

SCUBE3 Antibody: SCUBE3 is a member of a family of secreted glycoproteins that contain N-terminal EGF-like repeats and C-terminal cysteine-rich motifs and CUB domain and is highly expressed in primary osteoblasts and bones, and to a lesser extent in heart (1,2). Other studies have shown that overexpression of SCUBE3 in mice induced cardiac hypertrophy, suggesting that it may also play a role in the regulation of cardiac growth. SCUBE3 has been shown to be an endogenous TGF-beta receptor ligand (3,4) and is thought to promote lung cancer cell mobility and invasiveness. In lung cancer cells, the secreted SCUBE3 protein was cleaved by MMP2 and MMP9, allowing the activation of the TGF-beta receptor, the increase of Smad2/3 transcriptional activity and the upregulation of expression of proteins such as TGF-beta1, VEGF, Snail, and Slug.

References

Wu BT, Su YH, Tsai MT, et al. A novel secreted, cell-surface glycoprotein containing multiple epidermal growth factor-like repeats and one CUB domain is highly expressed in primary osteoblasts and bones. J. Biol. Chem. 2004; 279:37485-90.
Yang RB, Ng CK, Wasserman SM, et al. Identification of a novel family of cell-surface proteins expressed in human vascular endothelium. J. Biol. Chem. 2002; 277:46364-73.
Yang HY, Cheng CF, Djoko B, et al. Transgenic overexpression of the secreted, extracellular EGF-CUB domain containing protein SCUBE3 induces cardiac hypertrophy in mice. Cardiovas. Res. 2007; 75:139-47.
Wu YY, Peck K, Chang YL, et al. SCUBE3 is an endogenous TGF-β receptor ligand and regulates the epithelial-mesenchymal transition in lung cancer. Oncogene 2011; 30:3682-93.

Images



Immunohistochemistry of SCUBE3 in blood vessel tissue with SCUBE3 antibody at 10 µg/mL.