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GDF5 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2067a

Product Information

Application	WB, IHC-P, E
Primary Accession	P43026
Other Accession	NP_000548
Reactivity	Human
Predicted	Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	55395
Antigen Region	13-41

Additional Information

Gene ID	8200
Other Names	Growth/differentiation factor 5, GDF-5, Bone morphogenetic protein 14, BMP-14, Cartilage-derived morphogenetic protein 1, CDMP-1, Lipopolysaccharide-associated protein 4, LAP-4, LPS-associated protein 4, Radotermin, GDF5, BMP14, CDMP1
Target/Specificity	This GDF5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 13-41 amino acids from the N-terminal region of human GDF5.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GDF5 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GDF5
Synonyms	BMP14, CDMP1

Function	Growth factor involved in bone and cartilage formation. During cartilage development regulates differentiation of chondrogenic tissue through two pathways. Firstly, positively regulates differentiation of chondrogenic tissue through its binding of high affinity with BMPR1B and of less affinity with BMPR1A, leading to induction of SMAD1-SMAD5-SMAD8 complex phosphorylation and then SMAD protein signaling transduction (PubMed:15530414, PubMed:21976273, PubMed:24098149, PubMed:25092592). Secondly, negatively regulates chondrogenic differentiation through its interaction with NOG (PubMed:21976273). Required to prevent excessive muscle loss upon denervation. This function requires SMAD4 and is mediated by phosphorylated SMAD1/5/8 (By similarity). Binds bacterial lipopolysaccharide (LPS) and mediates LPS-induced inflammatory response, including TNF secretion by monocytes (PubMed:11276205).
Cellular Location	Secreted. Cell membrane
Tissue Location	Predominantly expressed in long bones during embryonic development. Expressed in monocytes (at protein level)

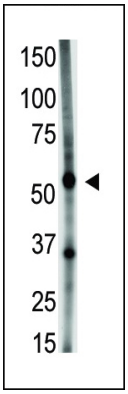
Background

GDF5 is a member of the bone morphogenetic protein (BMP) family and the TGF-beta superfamily. This group of proteins is characterized by a polybasic proteolytic processing site which is cleaved to produce a mature protein containing seven conserved cysteine residues. The members of this family are regulators of cell growth and differentiation in both embryonic and adult tissues. Mutations in this gene are associated with acromesomelic dysplasia, Hunter-Thompson type; brachydactyly, type C; and chondrodysplasia, Grebe type. These associations confirm that the gene product plays a role in skeletal development.

References

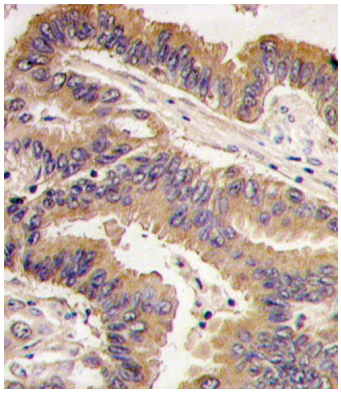
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Faiyaz-Ul-Haque, M., et al., Am. J. Med. Genet. 111(1):31-37 (2002).
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Images



The anti-GDF5 N-term Pab (Cat. #AP2067a) is used in Western blot to detect GDF5 in A549 cell lysate.

Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with GDF5 antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data



demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

- GDF-5 is suppressed by IL-1beta and enhances TGF-beta3-mediated chondrogenic differentiation in human rheumatoid fibroblast-like synoviocytes.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.