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Anti-Angiogenin/ANG Picoband Antibody

Catalog # ABO10025

Product Information

Application	WB, E
Primary Accession	P03950
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Angiogenin(ANG) detection. Tested with WB, ELISA in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	283
Other Names	Angiogenin, 3.1.27.-, Ribonuclease 5, RNase 5, ANG, RNASE5
Calculated MW	16550
Application Details	ELISA , 0.1-0.5 □g/ml, Human, - Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Nucleus . Secreted, extracellular space, extracellular matrix, basement membrane. Nucleus, nucleolus. Rapidly endocytosed by target cells and translocated to the nucleus where it accumulates in the nucleolus and binds to DNA.
Tissue Specificity	Expressed predominantly in the liver. Also detected in endothelial cells and spinal cord neurons. .
Source	Eukaryota
Protein Name	Angiogenin
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E. coli-derived human Angiogenin/ANG recombinant protein (Position: Q25-P147). Human Angiogenin/ANG shares 77.5% amino acid (aa) sequence identity with mouse Angiogenin/ANG.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

Name	ANG {ECO:0000303|PubMed:11919285, ECO:0000312|HGNC:HGNC:483}
Function	Secreted ribonuclease that can either promote or restrict cell proliferation of target cells, depending on the context (PubMed:12051708, PubMed:1400510, PubMed:19332886, PubMed:20129916, PubMed:21855800, PubMed:23047679, PubMed:23843625, PubMed:2424496, PubMed:2459697, PubMed:2730651, PubMed:27518564, PubMed:28176817, PubMed:29100074, PubMed:29748193, PubMed:3122207, PubMed:32510170, PubMed:38718836, PubMed:8159680, PubMed:8570639, PubMed:8622921, PubMed:9578571). Endocytosed in target cells via its receptor PLXNB2 and translocates to the cytoplasm or nucleus (PubMed:29100074, PubMed:32510170). Under stress conditions, localizes to the cytoplasm and promotes the assembly of stress granules (SGs): specifically cleaves a subset of tRNAs within anticodon loops to produce tRNA- derived stress-induced fragments (tiRNAs), resulting in translation repression and inhibition of cell proliferation (PubMed:1400510, PubMed:19332886, PubMed:20129916, PubMed:21855800, PubMed:23047679, PubMed:27518564, PubMed:29100074, PubMed:29748193, PubMed:32510170, PubMed:38718836). tiRNas also prevent formation of apoptosome, thereby promoting cell survival (By similarity). Preferentially cleaves RNAs between a pyrimidine and an adenosine residue, suggesting that it cleaves the anticodon loop of tRNA(Ala) (32-UUAGCAU-38) after positions 33 and 36 (PubMed:3289612, PubMed:38718836). Cleaves a subset of tRNAs, including tRNA(Ala), tRNA(Glu), tRNA(Gly), tRNA(Lys), tRNA(Val), tRNA(His), tRNA(Asp) and tRNA(Sec) (PubMed:31582561). Under growth conditions and in differentiated cells, translocates to the nucleus and stimulates ribosomal RNA (rRNA) transcription, including that containing the initiation site sequences of 45S rRNA, thereby promoting cell growth and proliferation (PubMed:12051708, PubMed:15735021, PubMed:27518564, PubMed:29100074, PubMed:8127865). Angiogenin induces vascularization of normal and malignant tissues via its ability to promote rRNA transcription (PubMed:19354288, PubMed:4074709, PubMed:8448182). Involved in hematopoietic stem and progenitor cell (HSPC) growth and survival by promoting rRNA transcription in growth conditions and inhibiting translation in response to stress, respectively (PubMed:27518564). Mediates the crosstalk between myeloid and intestinal epithelial cells to protect the intestinal epithelial barrier integrity: secreted by myeloid cells and promotes intestinal epithelial cells proliferation and survival (PubMed:32510170). Also mediates osteoclast-endothelial cell crosstalk in growing bone: produced by osteoclasts and protects the neighboring vascular cells against senescence by promoting rRNA transcription (By similarity).
Cellular Location	Secreted. Nucleus. Nucleus, nucleolus. Cytoplasm, Stress granule. Note=The secreted protein is rapidly endocytosed by target cells following interaction with PLXNB2 receptor and translocated to the cytoplasm and nucleus (PubMed:29100074). In the nucleus, accumulates in the nucleolus and binds to DNA (PubMed:12051708).
Tissue Location	Expressed predominantly in the liver (PubMed:2440105). Also detected in endothelial cells and spinal cord neurons (PubMed:17886298, PubMed:2440105)

Background

Angiogenin (Ang), also known as ribonuclease 5, is a small 123 amino acid protein that in humans is encoded by the ANG gene. The protein encoded by this gene is an exceedingly potent mediator of new blood vessel formation. It hydrolyzes cellular tRNAs resulting in decreased protein synthesis and is similar to pancreatic ribonuclease. In addition, the mature peptide has antimicrobial activity against some bacteria and fungi, including S. pneumoniae and C. albicans. Alternative splicing results in two transcript variants encoding the same protein. This gene and the gene that encodes ribonuclease, RNase A family, 4 share promoters and 5' exons. Each gene splices to a unique downstream exon that contains its complete coding region.

Images



Western blot analysis of Angiogenin/ANG expression in Recombinant Human ANG Protein 1ng (lane 1). Angiogenin/ANG at 17KD was detected using rabbit anti-Angiogenin/ANG Antigen Affinity purified polyclonal antibody (Catalog # ABO10025) at 0.5 □¼g/mL. The blot was developed using chemiluminescence (ECL) method .

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