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ANG I Polyclonal Antibody
Catalog # AP73726

Specification

ANG I Polyclonal Antibody - Product Information

Application	**WB, IHC-P**
Primary Accession	P03950
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**

ANG I Polyclonal Antibody - Additional Information

Gene ID 283

Other Names
ANG; RNASE5; Angiogenin; Ribonuclease 5; RNase 5

Dilution
WB~~Western Blot: 1/500 - 1/2000. IHC-p: 1:100-1:300. ELISA: 1/10000. Not yet tested in other applications.
IHC-P~~N/A

Format
Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions
-20℃

ANG I Polyclonal Antibody - 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:<a href="http://www.uniprot.org/citations/29100074"

target="_blank">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).

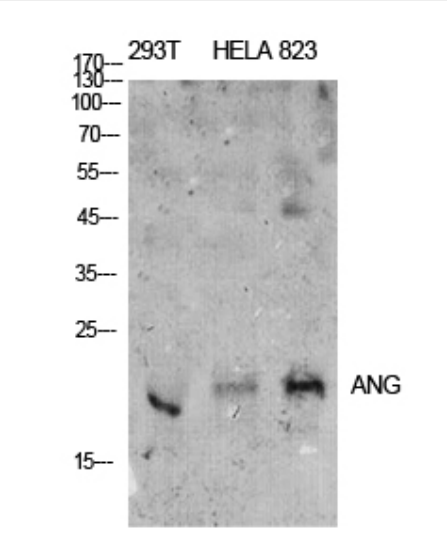
Tissue Location
Expressed predominantly in the liver (PubMed:2440105). Also detected in endothelial cells and spinal cord neurons (PubMed:17886298, PubMed:2440105)

ANG I Polyclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ANG I Polyclonal Antibody - Images



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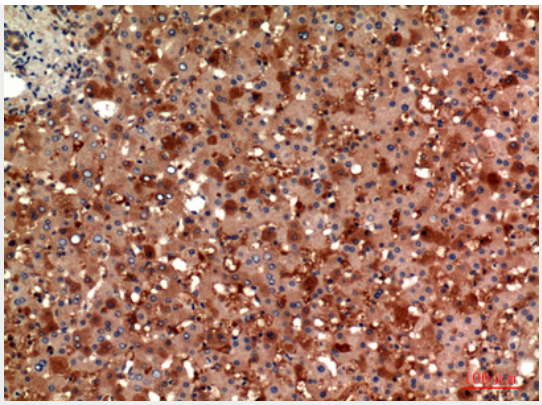

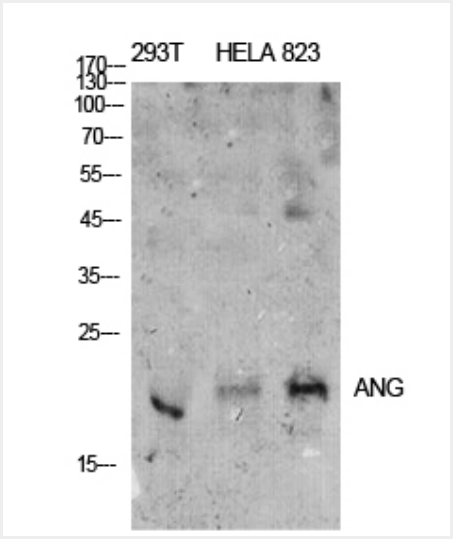

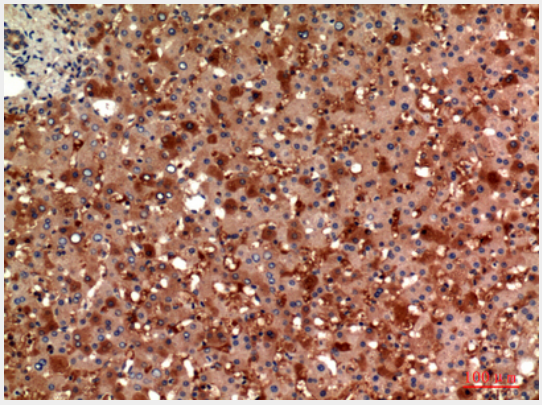

ANG I Polyclonal Antibody - Background

Binds to actin on the surface of endothelial cells; once bound, angiogenin is endocytosed and translocated to the nucleus. Stimulates ribosomal RNA synthesis including that containing the initiation site sequences of 45S rRNA. Cleaves tRNA within anticodon loops to produce tRNA-derived stress-induced fragments (tiRNAs) which inhibit protein synthesis and triggers the assembly of stress granules (SGs). Angiogenin induces vascularization of normal and malignant tissues. Angiogenic activity is regulated by interaction with RNH1 in vivo.