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GGPS1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2419A

Product Information

Application	IHC-P, WB, E
Primary Accession	O95749
Other Accession	Q6F596, Q9WTN0, P56966, NP_004828
Reactivity	Human
Predicted	Bovine, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	34871
Antigen Region	16-46

Additional Information

Gene ID	9453
Other Names	Geranylgeranyl pyrophosphate synthase, GGPP synthase, GGPPSase, 251-, (2E, 6E)-farnesyl diphosphate synthase, Dimethylallyltranstransferase, Farnesyl diphosphate synthase, Farnesyltranstransferase, Geranylgeranyl diphosphate synthase, Geranyltranstransferase, GGPS1
Target/Specificity	This GGPS1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 16-46 amino acids from the N-terminal region of human GGPS1.
Dilution	IHC-P~~1:100~500 WB~~1:1000 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	GGPS1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GGPS1
Function	Catalyzes the trans-addition of the three molecules of IPP onto DMAPP to

	form geranylgeranyl pyrophosphate, an important precursor of carotenoids and geranylated proteins.
Cellular Location	Cytoplasm. Cytoplasm, perinuclear region. Cytoplasm, myofibril, sarcomere, Z line
Tissue Location	Abundantly expressed in testis (PubMed:10026212, PubMed:9741684). Found in other tissues to a lower extent (PubMed:10026212, PubMed:9741684). Expressed in dermal fibroblast and skeletal muscle (PubMed:32403198).

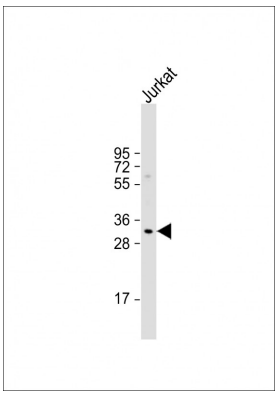
Background

Geranylgeranyl diphosphate (GGPP) synthase (GGPS) catalyzes the synthesis of GGPP, a molecule responsible for the C20-prenylation of protein and for the regulation of a nuclear hormone receptor. The deduced 300-amino acid human protein contains 5 conserved domains consistent with prenyltransferases. Recombinant GGPS shows enzymatic properties associated with the synthesis of GGPP from farnesyl diphosphate and isopentenyl diphosphate. Mouse GGPS is regulated in several tissues in obesity and is induced during adipocyte differentiation. GGPS is increased 5- to 20-fold in skeletal muscle, liver, and fat of ob/ob mice. Western blot analysis detects a 2-fold overexpression of protein in muscle and fat but not in liver. Differentiation of mouse fibroblasts into adipocytes induces GGPS expression more than 20-fold.

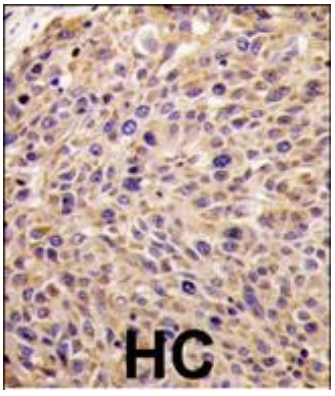
References

Kainou, T., et al., Biochim. Biophys. Acta 1437(3):333-340 (1999).
Kuzuguchi, T., et al., J. Biol. Chem. 274(9):5888-5894 (1999).
Ericsson, J., et al., J. Lipid Res. 39(9):1731-1739 (1998).

Images



Anti-GGPS1 Antibody (L31) at 1:1000 dilution + Jurkat whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 35 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with GGPS1 Antibody (N-term)(Cat.#AP2419a), 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

- GGPS1 Mutations Cause Muscular Dystrophy/Hearing Loss/Ovarian Insufficiency Syndrome
- TDP-43 depletion induces neuronal cell damage through dysregulation of Rho family GTPases.