abcam

ab109007

Anti-FDPS/FPS antibody [EPR4628]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR4628
Purification technique	Affinity purification Protein A
Concentration	0.418 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	Heat up to 98 degrees C, below boiling, and then let cool for 10-20 min.

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information FDPS

Function	Key enzyme in isoprenoid biosynthesis which catalyzes the formation of farnesyl diphosphate (FPP), a precursor for several classes of essential metabolites including sterols, dolichols, carotenoids, and ubiquinones. FPP also serves as

substrate for protein farnesylation and geranylgeranylation. Catalyzes the sequential condensation of isopentenyl pyrophosphate with the allylic pyrophosphates, dimethylallyl pyrophosphate, and then with the resultant geranylpyrophosphate to the ultimate product farnesyl pyrophosphate.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Farnesyl diphosphate synthase (FDPS) also known as farnesyl pyrophosphate synthase (FPS) is an important enzyme that catalyzes the synthesis of farnesyl diphosphate (FPP) from isopentenyl pyrophosphate (IPP) and dimethylallyl pyrophosphate (DMAPP). This enzyme plays an important role in the mevalonate pathway which is essential for the biosynthesis of sterols including cholesterol and other isoprenoids. FDPS is a protein with a molecular mass of approximately 42 kDa. Its expression occurs in various tissues with significant levels in liver brain and bone where it contributes to different cellular metabolic processes.

Biological function summary	Farnesyl diphosphate synthase facilitates the production of FPP a common precursor for the synthesis of isoprenoid compounds such as cholesterol ubiquinones and dolichol. FDPS does not form a complex but works in coordination with other enzymes in the mevalonate pathway. Its activity supports numerous cellular functions including membrane assembly protein prenylation and cell signaling. The enzyme's role is important for normal cellular growth and development influencing processes like cell differentiation and proliferation.
Pathways	FDPS plays a significant role in the cholesterol biosynthesis and protein prenylation pathways. These pathways are critical for cellular homeostasis and involve several enzymes including HMG-CoA reductase and squalene synthase. The cholesterol biosynthesis pathway includes multiple steps where FPP serves as a lipid intermediate. Meanwhile in protein prenylation FPP contributes to the post-translational modification of proteins such as small GTPases which impacts cell signaling and cytoskeletal organization.
Associated diseases and disorders	FDPS has a connection to bone diseases such as osteoporosis and also links to cardiovascular disorders. The relationship to osteoporosis arises from its role in bone resorption and osteoclast activity mediated by proteins like RANKL and osteoprotegerin. Cardiovascular disorders may link to altered cholesterol metabolism with FDPS influencing cholesterol biosynthesis and regulation. Inhibition of FDPS activity targets these pathways leading to therapeutic strategies that may address both metabolic and bone health issues.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

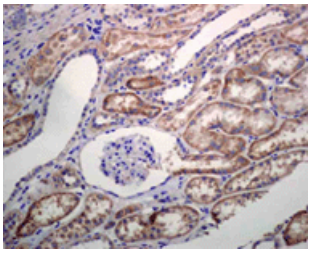
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:

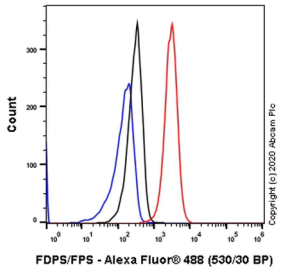
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FDPS/FPS antibody [EPR4628] (ab109007)

FDPS/FPS Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-FDPS/FPS antibody

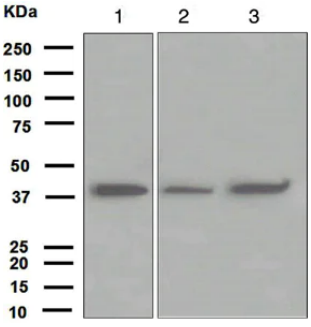
ab109007 at 1/100 dilution staining FDPS/FPS in Human kidney by Immunohistochemistry, Paraffin-embedded tissue.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-FDPS/FPS antibody [EPR4628] (ab109007)

FDPS/FPS Flow Cytometry (Intracellular) staining using rabbit Anti-FDPS/FPS antibody

Flow Cytometry analysis of THP-1 (Human monocytic leukemia monocyte) cells labeling FDPS/FPS with purified ab109007 at 1/1000 dilution (1 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Western blot - Anti-FDPS/FPS antibody [EPR4628] (ab109007)

All lanes:
Western blot - Anti-FDPS/FPS antibody [EPR4628] (ab109007) at 1/1000 dilution

Lane 1:
THP1 cell lysates

Lane 2:
HepG2 cell lysates

Lane 3:
Human fetal liver lysates

Predicted band size: 48 kDa

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