PRODUCT INFORMATION

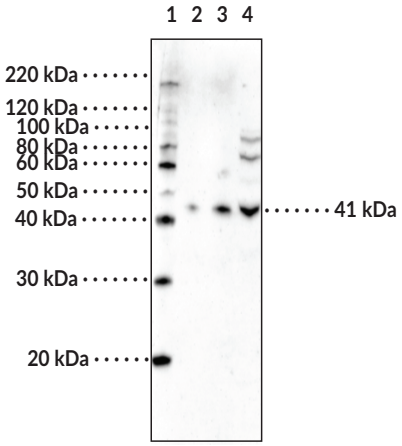
FSP1 Polyclonal Antibody

Item No. 31406

Overview and Properties

Contents:	This vial contains 500 µg of protein A-affinity purified polyclonal antibody.
Synonyms:	AIFM2, Apoptosis-inducing Factor Homologous Mitochondrion-associated Inducer of Death, Apoptosis-inducing Factor Mitochondria-associated 2, Ferroptosis Suppressor Protein 1, p53-Responsive Gene 3 Protein, PRG3
Immunogen:	Full-length human recombinant FSP1
Cross Reactivity:	(+) FSP1
Species Reactivity:	(+) Human, mouse
Uniprot No.:	Q9BRQ8
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Applications:	ELISA and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: MW Markers (3 µl)
Lane 2: FSP1 Protein (50 ng)
Lane 3: FSP1 Protein (100 ng)
Lane 4: PC12 cell lysate (50 µg)

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Description

Ferroptosis suppressor protein 1 (FSP1), also known as apoptosis-inducing factor mitochondria-associated 2 (AIFM2), is a flavoprotein and NAD(P)H-dependent oxidoreductase that inhibits ferroptosis in a glutathione peroxidase 4 (GPX4) and glutathione-independent manner.[1-3] It is encoded by *AIFM2* in humans and is composed of a short N-terminal hydrophobic region followed by a flavin adenine dinucleotide-dependent oxidoreductase domain.[2] FSP1 localizes to the plasma membrane in a myristoylation-dependent manner, where it reduces coenzyme Q_{10} (CoQ_{10}; Item No. 11506) to $CoQ_{10}H_2$. Reduced CoQ_{10} functions as a radical-trapping antioxidant and inhibits lipid peroxidation. *AIFM2* expression positively correlates with resistance to GPX4 inhibitors, including (1S,3R)-RSL3 (Item No. 19288), ML-210 (Item No. 23282), and ML-162 (Item No. 20455), in cancer cell lines. Withdrawal of the ferroptosis inhibitor ferrostatin-1 (Item No. 17729) reduces tumor growth in an *Fsp1/Gpx4* double knockout, but not a *GPX4* single knockout, H460 lung cancer mouse xenograft model, indicating that FSP1 confers resistance to ferroptotic cell death. Cayman's FSP1 Polyclonal Antibody can be used for ELISA and Western blot (WB) applications. The antibody recognizes FSP1 at 41 kDa from human and mouse samples.

References

1. Doll, S., Freitas, F.P., Shah, R., *et al*. FSP1 is a glutathione-independent ferroptosis suppressor. *Nature* **575(7784)**, 693-698 (2019).
2. Bersuker, K., Hendricks, J., Li, Z., *et al*. The CoQ oxidoreductase FSP1 acts parallel to GPX4 to inhibit ferroptosis. *Nature* **575(7784)**, 688-692 (2019).
3. Marshall, K.R., Gong, M., Wodke, L., *et al*. The human apoptosis-inducing protein AMID is an oxidoreductase with a modified flavin cofactor and DNA binding activity. *J. Biol. Chem*. **280(35)**, 30735-30740 (2005).

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