

PRODUCT INFORMATION



ABHD10 (human, recombinant)

Item No. 44968

Overview and Properties

Synonyms: Abhydrolase Domain-containing 10, Acyl-protein Thioesterase ABHD10, α/β -Hydrolase Domain-containing Protein 10, Mitochondrial, Mycophenolic Acid Acyl-glucuronide Esterase, Palmitoyl-protein Thioesterase ABHD10, Mitochondrial

Source: Recombinant human N-terminal His-tagged ABHD10 expressed in insect cells

Amino Acids: 53-306

Uniprot No.: Q9NUJ

Molecular Weight: 30.3 kDa

Storage: -80°C (as supplied)

Stability: ≥ 1 year

Purity: $\geq 90\%$ estimated by SDS-PAGE

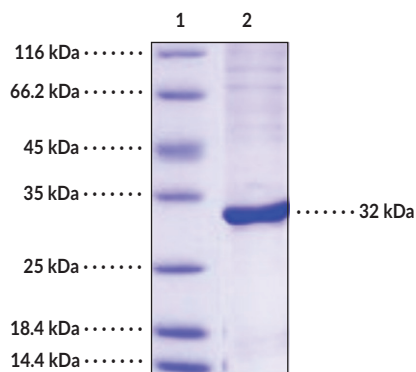
Supplied in: Lyophilized from sterile 20 mM Tris, pH 8.0, with 500 mM sodium chloride and 10% glycerol

Protein Concentration: *batch specific*

Endotoxin Testing: < 1.0 EU/ μ g, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: ABHD10

SDS-PAGE Analysis of ABHD10. This protein has a calculated molecular weight of 30.3 kDa. It has an apparent molecular weight of approximately 32 kDa by SDS-PAGE under reducing conditions.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

α/β -Hydrolase domain-containing protein 10 (ABHD10) is an S-depalmitoylase, a deglucuronidase, and a member of the metabolic serine hydrolase family.¹⁻⁴ It is composed of an N-terminal mitochondrial localization signal and ABHD fold that contains the Ser-His-Asp catalytic triad.^{3,4} ABHD10 is expressed in testis and liver and localizes to the mitochondria.^{1,2,4} It is involved in redox homeostasis *via* regulation of peroxiredoxin-5 (Prx5) palmitoylation and mitochondrial sheath formation *via* regulation of spermatogenesis-associated protein 19 (SPATA19), glycerol kinase 2 (GK2), and pyruvate dehydrogenase protein X component (PDHX) palmitoylation.^{3,4} ABHD10 is also involved in deglucuronidation of mycophenolic acid acyl glucuronide and probenecid acyl glucuronide in the liver.^{1,2} Knockout of *Abhd10* induces sperm motility defects in mice.⁴ Liver expression of *ABHD10* is decreased in patients with severe alcoholic hepatitis.⁵ Cayman's ABHD10 (human, recombinant) protein consists of 271 amino acids and has a calculated molecular weight of 30.3 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 32 kDa.

References

1. Iwamura, A., Fukami, T., Higuchi, R., *et al.* Human α/β hydrolase domain containing 10 (ABHD10) is responsible enzyme for deglucuronidation of mycophenolic acid acyl-glucuronide in liver. *J. Biol. Chem.* **287**(12), 9240-9249 (2012).
2. Ito, Y., Fukami, T., Yokoi, T., *et al.* An orphan esterase ABHD10 modulates probenecid acyl glucuronidation in human liver. *Drug Metab. Dispos.* **42**(12), 2109-2116 (2014).
3. Cao, Y., Qiu, T., Kathayat, R.S., *et al.* ABHD10 is an S-depalmitoylase affecting redox homeostasis through peroxiredoxin-5. *Nat. Chem. Biol.* **15**(12), 1232-1240 (2019).
4. Zhou, S., Zhou, H., Xu, H., *et al.* The S-depalmitoylase ABHD10 is essential for sperm mitochondrial sheath formation and male fertility. *Nat. Commun.* **16**(1), 10334 (2025).
5. Li, T.Z., Bai, C.Y., Wu, B., *et al.* The Elk-3 target *Abhd10* ameliorates hepatotoxic injury and fibrosis in alcoholic liver disease. *Commun. Biol.* **6**(1), 382 (2023).

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