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Produktinformation

- Forschungsprodukte & Biochemikalien
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- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

PRODUCT INFORMATION

Fatty Acid Desaturase 1 (human recombinant)

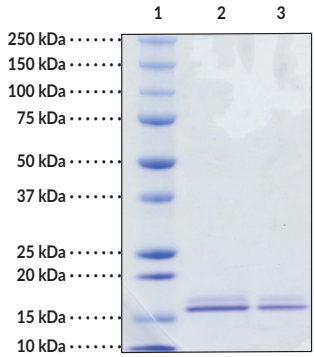
Item No. 25827

Overview and Properties

Synonyms:	Acyl-CoA (8-3)-Desaturase, Δ^5 Desaturase; Δ^5D, Δ^5 Desaturase, EC 1.14.19., FADS1, FADSΔ^5, FADS6, Δ^5 Fatty Acid Desaturase, Linoleoyl-CoA Desaturase (Δ^6 Desaturase)-Like 1, TU12
Source:	Recombinant N-terminal histidine-tagged FADS1 N-terminal domain purified from *E. coli*
Amino Acids:	2-121
Uniprot No.:	O60427
Molecular Weight:	15.89 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	***batch specific*** (≥80% estimated by SDS-PAGE)
Supplied in:	50 mM HEPES, pH 8.0, with 150 mM sodium chloride and 10% glycerol
Protein Concentration:	***batch specific*** mg/ml

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

Image



Lane 1: MW Markers
Lane 2: FADS1 (4 µg)
Lane 3: FADS1 (2 µg)

Representative gel image shown; actual purity may vary between each batch.

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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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

Fatty acid desaturase 1 (FADS1), also known as Δ^5 desaturase, is a 444-amino acid transmembrane protein encoded by *FADS1*.[1] This product is the N-terminal cytoplasmic domain of FADS1, corresponding to residues 2-121 of the full-length sequence. It catalyzes conversion of dihomo-γ-linolenic acid (Item No. 90230) to arachidonic acid (Item No. 90010) and ω-3 arachidonic acid (Item No. 90011) to eicosapentaenoic acid (Item Nos. 90110 | 90110.1 | 21908) during the production of ω-6 and ω-3 long-chain polyunsaturated fatty acids (LC-PUFAs), respectively. Hepatic FADS1 protein levels and mRNA expression are increased in mice with high-fat diet-induced obesity and non-alcoholic steatohepatitis (NASH).[2] Tissue-selective knockdown of *fads1* in the liver, adipose tissue, and reticuloendothelial system of adult hyperlipidemic LDL receptor-null mice promotes hepatic inflammation and formation of atherosclerotic plaques and suppresses hepatic lipogenesis.[3] Increased expression of FADS1 positively correlates with disease-free survival and overall survival times in patients with esophageal squamous cell carcinoma (ESCC).[4]

References

1. Lattka, E., Illig, T., Heinrich, J., *et al*. FADS gene cluster polymorphisms: Important modulators of fatty acid levels and their impact on atopic diseases. *J. Nutrigenet. Nutrigenomics* **2(3)**, 119-128 (2009).
2. López-Vicario, C., González-Périz, A., Rius, B., *et al*. Molecular interplay between Δ5/Δ6 desaturases and long-chain fatty acids in the pathogenesis of non-alcoholic steatohepatitis. *Gut* **63(2)**, 344-55 (2014).
3. Gromovsky, A.D., Schugar, R.C., Brown, A.L., *et al*. The Δ-5 fatty acid desaturase FADS1 impacts metabolic disease by balancing pro-inflammatory and pro-resolving lipid mediators. *Arterisoscler. Thromb. Vasc. Biol*. **38(1)**, 218-231 (2018).
4. Du, Y., Yan, S.M., Gu, W.Y., *et al*. Decreased expression of FADS1 predicts a poor prognosis in patients with esophageal squamous cell carcinoma. *Asian Pac. J. Cancer Prev*. **16(12)**, 5089-5094 (2015).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM