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Produktinformation

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PRODUCT INFORMATION

Fatty Acid Amide Hydrolase (human, recombinant)

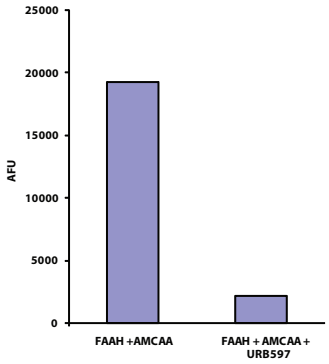
Item No. 10010183

Overview and Properties

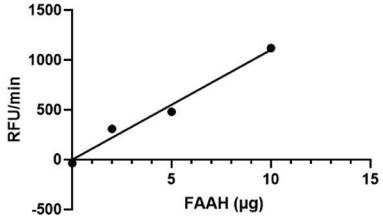
Synonyms:	Anandamide Amidohydrolase 1, FAAH, Oleamide Hydrolase 1, PSAB
Source:	Active recombinant C-terminal His-tagged FAAH expressed in *Sf*21 cells
Amino Acids:	2-579
Uniprot No.:	O00519
Molecular Weight:	64.3 kDa
Storage:	-80°C (as supplied); avoid freeze/thaw cycles by aliquoting protein
Stability:	≥9 months
Purity:	Cell Lysate: Resuspended 100,000 g pellet
Supplied in:	20 mM Hepes, pH 7.8, with 150 mM sodium chloride, 1 mM EDTA, 1 mM DTT, 0.5% CHAPS, and 20% glycerol
Protein Concentration:	***batch specific*** mg/ml
Activity:	***batch specific*** U/ml
Specific Activity:	***batch specific*** U/mg
Unit Definition:	One unit is defined as the amount of enzyme required to produce 1 pmole of AMC per minute in 50 mM Tris, pH 9.0, 1 mM EDTA and 20 µM AMC Arachidonyl Amide (AMCAA) at 37°C.

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

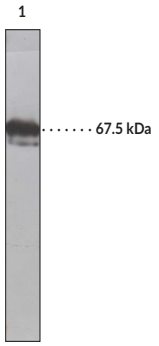
Images



Inhibition of FAAH by URB597



Activity of FAAH. FAAH activity was determined using Cayman's Fatty Acid Amide Hydrolase Inhibitor Screening Assay Kit (Item No. 10005196) with 20 µM of Cayman's AMC Arachidonyl Amide (Item No. 10005098).



Lane 1: FAAH 100,000 x g supernatant

Western blot of FAAH (human recombinant) probed using Cayman's FAAH Polyclonal Antibody (Item No. 101600).

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PRODUCT INFORMATION

Description

Fatty acid amide hydrolase (FAAH) is a serine hydrolase with a major role in the hydrolysis of endocannabinoids.[1-3] It is composed of an N-terminal transmembrane domain, a catalytic domain containing an amidase signature sequence, a polyproline sequence, and a monotopic membrane binding domain.[3] FAAH is localized to microsomal and mitochondrial membranes and is highly expressed in the CNS but can also be found in peripheral tissues such as lung, gastrointestinal tract, kidney, liver, bladder, prostate, and testis.[2,4] It primarily catalyzes the inactivation of the endogenous endocannabinoid arachidonoyl ethanolamide (AEA; Item No. 90050) *via* hydrolysis to arachidonic acid and ethanolamine but has broad substrate selectivity towards fatty acid amides, including oleamide, N-acyltaurines, and other N-acylethanolamines.[2] Genetic or pharmacologic knockdown of FAAH increases levels of AEA and dampens pain sensitivities and inflammatory endpoints in rodent models of inflammatory pain, allergic contact dermatitis, inflammatory bowel disease, and neuropathic pain.[5]

References

1. Cravatt, B.F., Giang, D.K., Mayfield, S.P., *et al.* Molecular characterization of an enzyme that degrades neuromodulatory fatty-acid amides. *Nature* **384(6604)**, 83-87 (1996).
2. van Egmond, N., Straub, V.M., and van der Stelt, M. Targeting endocannabinoid signaling: FAAH and MAG lipase inhibitors. *Annu. Rev. Pharmacol. Toxicol.* **61**, 441-463 (2021).
3. Ahn, K., Johnson, D.S., and Cravatt, B.F. Fatty acid amide hydrolase as a potential therapeutic target for the treatment of pain and CNS disorders. *Expert Opin. Drug Discov.* **4(7)**, 763-784 (2009).
4. Deutsch, D.G., Ueda, N., and Yamamoto, S. The fatty acid amide hydrolase (FAAH). *Prostaglandins Leukot. Essent. Fatty Acids* **66(2-3)**, 201-210 (2002).
5. Schlosburg, J.E., Kinsey, S.G., and Lichtman, A.H. Targeting fatty acid amide hydrolase (FAAH) to treat pain and inflammation. *AAPS J.* **11(1)**, 39-44 (2009).

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