ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Fatty Acid Amide Hydrolase (FAAH) Antibodies

Cat. # FAAH11-P	Human FAAH Control Peptide # 1	**SIZE**: 100 ug
Cat. # FAAH11-S	Rabbit Anti-Human FAAH antiserum # 1	**SIZE**: 100 ul
Cat. # FAAH11-A	Rabbit Anti-Human FAAH IgG # 1 (aff pure)	**SIZE**: 100 ug

Cannabinoids, a group of C21 compounds present in Cannabis sativa L., their carboxylic acids, analogs, and transformation products, are the active ingredients found in hashish and marihuana. (-)-trans-D9-tetrahydrocannabinol (D9-**THC**) is the major psychopharmacologically active component of cannabis. Cannabis affect cognition and memory, euphoria and sedation, and antinociception (analgesia) without the respiratory depression problems associated with opioid analgesics. To date, two sub-types of the G-protein coupled **cannabinoid receptor**, **CB1 and CB2**, have been identified. The first brain-derived endogenous cannabinoids, an unsaturated fatty-acid ethanolamide, arachidonylethanolamide (**AEA**, also called **anandamide**) was found in brain. AEA has higher affinity for the CB_1 than for the CB_2. Neurons and astrocytes have been found to re-uptake and hydrolyze anandamide rapidly, resulting in the formation of arachidonic acid and ethanolamine. The uptake mechanism has been shown to be mediated by a saturable, selective, temperature-dependent and Na^+-independent transporter. Anandamide hydrolysis is catalyzed by a membrane-bound amidohydrolase (called **anandamide amidohydrolase or fatty acid amide hydrolase, FAAH**). FAAH (rat/mouse/human 579 aa; chromosome 1p34-p35; mol wt ~67 kDa) sequence analyses suggest a single predicted transmembrane domain at the extreme N-terminus of the enzyme. Distribution of FAAH parallels CB_1 in rat brain suggesting that FAAH participates in cannabinoid signaling mechanisms. The sn-2-Arachidonylglycerol (2-AG), initially isolated from intestine, appears to be the second endogenous CB ligand (CB_1 K_i = 472 nM; CB_2 K_i = 1400 nM). 2-AG concentration in the brain is 170 times greater than anandamide. FAAH hydrolyzes 2-AG at a rate four times faster than that for anandamide hydrolysis.

Source of Antigen and Antibodies

Antigen	A 17 aa peptide (**designated FAAH11-P control peptide**). **Epitope location** ~N-terminus of **human FAAH** (1)
Ab Host/type	Rabbit, polyclonal unpurified antiserum (cat # **FAAH11-S**),and Aff pure IgG1 (**cat # FAAH11-A**) purified over the antigen column
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure IgG (see refs 2).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry: see refs (2)..

Specificity & Cross-reactivity

The human FAAH11-P peptide sequence is 100% conserved in rat, 94% in pig and mouse, and 58% chicken FAAH. No significant sequence homology exists with other hydrolase's. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: the web site).

General References: Patricelli MR et al (1998) Biochemistry 37, 15177-15187; Maccarone M et al (1998) J. Biol. Chem. 273, 32332-32339; Cravatt BF et al (1996) Nature 384, 83-87; Giang Dk et al (1997) PNAS 94, 2238-2242; Thomas EA et al (1997) J. Neurosci. 50, 1047-1052; Wan M et al (1998) Genomics 54, 408-414

(2) Citations of ADI's Antibodies (see web site for updated list)

Park B, 2003, Placenta 24, 990-995, IHC/human brain/PF sections
El-Gohary M, 2004, Human & Exp. Toxicology 23, 149-156 WB?

*This product is for In vitro research use only.

Related material available from ADI

Anti-CB1, CB2, FAAH, THC, and THC ELISA kit

FAAH11-S-A-P 71218S

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