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 analogs.

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 CB1 than for the CB2. 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 amidanamide amidehydrolase 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 CB1 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 (CB1: K_i = 472 nM; CB2: 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 Antibigen and Antibodies

<table>
<thead>
<tr>
<th>Antigen</th>
<th>A 17 aa peptide (designated FAAH11-P control peptide). Epitope location ~N-terminus of human FAAH (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ab Host/type</td>
<td>Rabbit, polyclonal unpurified antiserum (cat # FAAH11-S), and Aff pure IgG1 (cat # FAAH11-A) purified over the antigen column</td>
</tr>
<tr>
<td>2-ab</td>
<td>Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available</td>
</tr>
<tr>
<td>-ve control</td>
<td># 20099-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control</td>
</tr>
</tbody>
</table>

### Form & Storage of Antibodies/Peptide Control

<table>
<thead>
<tr>
<th>Antiserum (unpurified)</th>
<th>100µl solution lyophilized powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplied in Buffer:</td>
<td>0.05% azide reconstitute powder in 100 ul PBS</td>
</tr>
<tr>
<td>Affinity pure IgG</td>
<td>100 µg/100µl solution lyophilized powder</td>
</tr>
<tr>
<td>Supplied in Buffer:</td>
<td>PBS+0.1% BSA reconstitute powder in PBS at 1mg/ml</td>
</tr>
</tbody>
</table>

### Control/blocking peptide

100µg/100 µl 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 µg/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:


### (2) Citations of ADI’s Antibodies


**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 |

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