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Inhibitors, Screening Libraries, Proteins

# FAAH

## Fatty acid amide hydrolase

FAAH (Fatty acid amide hydrolase) is a membrane-bound protein belonging to serine hydrolase family of enzymes. FAAH is responsible for the hydrolysis of a number of important endogenous fatty acid amides, including the endogenous cannabimimetic agent anandamide (AEA), the sleep-inducing compound oleamide, and the putative anti-inflammatory agent palmitoylethanolamide (PEA). FAAH plays a significant role in termination of signalling of a class of bioactive lipids called fatty acid amides (FAAs) both in the central nervous system (CNS) and peripheral tissues.

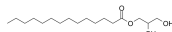
FAAH belongs to the amidase signature (AS) superfamily and is widely distributed in multicellular eukaryotes. FAAH has a key role in the control of the cannabinoid signaling, through the hydrolysis of the endocannabinoids anandamide and in some tissues 2-arachidonoylglycerol.

## FAAH Inhibitors

### 1-Monomyristin

Cat. No.: HY-N2512

1-Monomyristin, extracted from *Serenoa repens*, inhibits the hydrolysis of 2-oleoylglycerol ( $IC_{50}$ =32  $\mu$ M) and fatty acid amide hydrolase (FAAH) activity ( $IC_{50}$ =18  $\mu$ M).

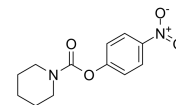


**Purity:**  $\geq$ 98.0%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg, 10 mg, 20 mg

### AA38-3

Cat. No.: HY-18544

AA38-3 is a **serine hydrolase (SH)** inhibitor. AA38-3 can inhibit three SHs, ABHD6, ABHD11, and FAAH.



**Purity:** 99.63%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

### Acetylhydrolase-IN-1

Cat. No.: HY-102054

Acetylhydrolase-IN-1 is a 1-Alkyl-2-acetyllycerophosphocholine esterase (**Alkylacetyl-GPC: acetylhydrolase**) inhibitor.

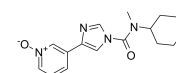


**Purity:**  $>$ 98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg

### BIA 10-2474

Cat. No.: HY-19740

BIA 10-2474 is an inhibitor of fatty acid amide hydrolase (**FAAH**) with  $IC_{50}$  values of 50 to 70mg/kg in various rat brain regions.

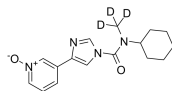


**Purity:** 98.41%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg, 10 mg, 50 mg, 100 mg

### BIA 10-2474-d3

Cat. No.: HY-19740S

BIA 10-2474-d3 is the deuterium labeled BIA 10-2474. BIA 10-2474 is an inhibitor of fatty acid amide hydrolase (**FAAH**) with  $IC_{50}$  values of 50 to 70mg/kg in various rat brain regions.



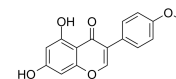
**Purity:**  $>$ 98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg

### Biochanin A

(4-Methylgenistein; Olmelin)

Cat. No.: HY-14595

Biochanin A is a naturally occurring fatty acid amide hydrolase (**FAAH**) inhibitor, which inhibits FAAH with  $IC_{50}$ s of 1.8, 1.4 and 2.4  $\mu$ M for mouse, rat, and human FAAH, respectively.

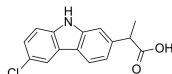


**Purity:** 98.98%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM  $\times$  1 mL, 200 mg, 500 mg

### Carprofen

Cat. No.: HY-B1227

Carprofen is a nonsteroid anti-inflammatory agent, acts as a multi-target **FAAH/COX** inhibitor, with  $IC_{50}$ s of 3.9  $\mu$ M, 22.3  $\mu$ M and 78.6  $\mu$ M for COX-2, COX-1 and FAAH, respectively.

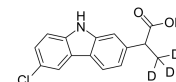


**Purity:** 99.96%  
**Clinical Data:** Launched  
**Size:** 10 mM  $\times$  1 mL, 100 mg

### Carprofen-d3

Cat. No.: HY-B1227S

Carprofen-d3 is the deuterium labeled Carprofen. Carprofen is a nonsteroid anti-inflammatory agent, acts as a multi-target **FAAH/COX** inhibitor, with  $IC_{50}$ s of 3.9  $\mu$ M, 22.3  $\mu$ M and 78.6  $\mu$ M for COX-2, COX-1 and FAAH, respectively.

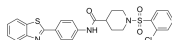


**Purity:**  $>$ 98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 10 mg

### Dual FAAH/sEH-IN-1

Cat. No.: HY-144738

Dual FAAH/sEH-IN-1 (compound 3) is a high affinity dual **sEH** (soluble epoxide hydrolase) and **FAAH** (fatty acid amide hydrolase) inhibitor, with  $IC_{50}$  values of 9.6 and 7 nM, respectively. Dual FAAH/sEH-IN-1 shows antinociception against the inflammatory phase.



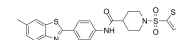
**Purity:**  $>$ 98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg

### FAAH inhibitor 1

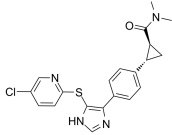
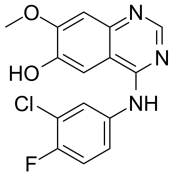
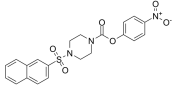
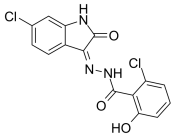
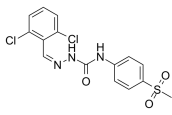
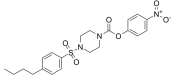
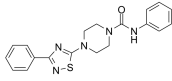
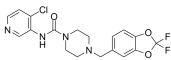
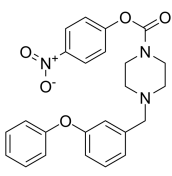
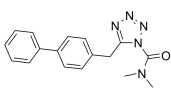
(Benzothiazole analog 3)

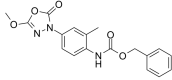
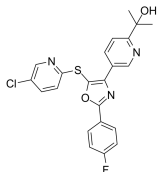




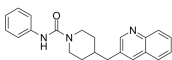
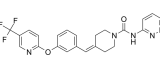
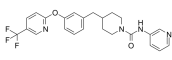
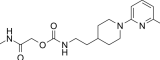
Cat. No.: HY-10862

FAAH inhibitor 1 (Benzothiazole analog 3) is a potent **fatty acid amide hydrolase (FAAH)** inhibitor with an  $IC_{50}$  of 18 $\pm$ 8 nM.



**Purity:**  $>$ 98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg

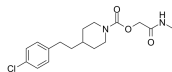
<p><b>FAAH-IN-1</b></p> <p>Cat. No.: HY-111389</p> <p>FAAH-IN-1 is a fatty acid amide hydrolase (FAAH) inhibitor, with <math>IC_{50}</math>s of 145 nM and 650 nM for rat and human FAAH, respectively.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg, 5 mg</p> 	<p><b>FAAH-IN-2</b> (O-Desmorpholinopropyl Gefitinib)</p> <p>Cat. No.: HY-79511</p> <p>FAAH-IN-2 (O-Desmorpholinopropyl Gefitinib) is a potent FAAH (fatty acid amide hydrolase) inhibitor extracted from Patent WO/2008/100977A2.</p> <p><b>Purity:</b> 98.17%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 10 mM × 1 mL, 500 mg, 1 g, 5 g</p> 
<p><b>FAAH-IN-5</b></p> <p>Cat. No.: HY-146341</p> <p>FAAH-IN-5 (Compound 7) is a relative selective, irreversible fatty acid amide hydrolase (FAAH) inhibitor with an <math>IC_{50}</math> of 10.5 nM. FAAH-IN-5 shows low PAMPA (Parallel Artificial Membrane Permeability Assay) permeability.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg, 5 mg</p> 	<p><b>FAAH/MAGL-IN-1</b></p> <p>Cat. No.: HY-143263</p> <p>FAAH/MAGL-IN-1 (compound SIH 3) is a potent FAAH and MAGL inhibitor with <math>IC_{50}</math>s of 31 nM and 29 nM, respectively. FAAH/MAGL-IN-1 has the potential for the research of neuropathic pain.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg, 5 mg</p> 
<p><b>FAAH/MAGL-IN-2</b></p> <p>Cat. No.: HY-143264</p> <p>FAAH/MAGL-IN-2 is a potent, reversible, orally active, and cross the blood-brain barrier FAAH and MAGL inhibitor with <math>IC_{50}</math>s of 11 nM and 36 nM (<math>K_i</math>s of 28 nM and 60 nM), respectively.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg, 5 mg</p> 	<p><b>FAAH/MAGL-IN-3</b></p> <p>Cat. No.: HY-146342</p> <p>FAAH/MAGL-IN-3 (Compound 10) is an irreversible fatty acid amide hydrolase (FAAH) and monoacylglycerol lipase (MAGL) dual inhibitor with <math>IC_{50}</math> values of 179 and 759 nM against FAAH and MAGL, respectively.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg, 5 mg</p> 
<p><b>JNJ-1661010</b> (Takeda-25)</p> <p>Cat. No.: HY-N7062</p> <p>JNJ-1661010 (Takeda-25) a potent and selective fatty acid amide hydrolase (FAAH) inhibitor with <math>IC_{50}</math>s of 34 and 33 nM for rat FAAH and human FAAH, respectively. JNJ-1661010 can cross the blood-brain barrier and used as broad-spectrum analgesics.</p> <p><b>Purity:</b> 98.99%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</p> 	<p><b>JNJ-42165279</b></p> <p>Cat. No.: HY-19636</p> <p>JNJ-42165279 is a FAAH inhibitor with <math>IC_{50}</math> of <math>70 \pm 8</math> nM and <math>313 \pm 28</math> nM for hFAAH and rFAAH, respectively.</p> <p><b>Purity:</b> 99.87%  <b>Clinical Data:</b> Phase 2  <b>Size:</b> 10 mM × 1 mL, 5 mg, 10 mg, 25 mg</p> 
<p><b>JZL195</b></p> <p>Cat. No.: HY-15250</p> <p>JZL195 is a selective and efficacious dual fatty acid amide hydrolase (FAAH) and monoacylglycerol lipase (MAGL) inhibitor with <math>IC_{50}</math>s of 2 and 4 nM, respectively.</p> <p><b>Purity:</b> 99.81%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</p> 	<p><b>LY2183240</b></p> <p>Cat. No.: HY-10865</p> <p>LY2183240 is a highly potent blocker of anandamide uptake (<math>IC_{50} = 270</math> pM; <math>K_i = 540</math> nM). LY2183240 is a potent, covalent inhibitor of the endocannabinoid-degrading enzyme fatty acid amide hydrolase (FAAH) with an <math>IC_{50}</math> of 12.4 nM.</p> <p><b>Purity:</b> 99.07%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 10 mM × 1 mL, 10 mg, 50 mg</p> 

<p><b>MAGL-IN-5</b></p> <p>Cat. No.: HY-119283</p> <p>MAGL-IN-5 is a non-selective lipase inhibitor with <math>IC_{50}</math> values of 144, 90, and 14 nM for human recombinant monoacylglycerol lipase(MAGL),hormone sensitive lipase(HSL), and fatty acid amide hydrolase(FAAH) respectively.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg, 5 mg</p> 	<p><b>MK-4409</b></p> <p>Cat. No.: HY-12909</p> <p>MK-4409 is a potent oxazole FAAH inhibitor and can be used for the research of inflammatory and neuropathic pain.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg, 5 mg</p> 
<p><b>N-(3-Methoxybenzyl)Palmitamide</b></p> <p>Cat. No.: HY-N2428</p> <p>N-(3-Methoxybenzyl)Palmitamide is a promising inhibitor of FAAH for the treatment of pain, inflammation and CNS degenerative disorders.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 5 mg, 10 mg, 25 mg</p> 	<p><b>N-Benzyleamide</b></p> <p>Cat. No.: HY-N6923</p> <p>N-Benzyleamide is a macamide isolated from Lepidium meyenii (Maca). N-Benzyleamide irreversibly inhibits fatty acid amide hydrolase (FAAH). N-benzyleamide influences the energy metabolism and reveals antioxidant and antifatigue activities.</p> <p><b>Purity:</b> 98.29%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 5 mg, 10 mg</p> 
<p><b>N-Benzylpalmitamide</b> (N-Benzylhexadecanamide; Macamide 1)</p> <p>Cat. No.: HY-N2365</p> <p>N-Benzylpalmitamide is a macamide isolated from Lepidium meyenii, acts as an inhibitor of fatty acid amide hydrolase (FAAH).</p> <p><b>Purity:</b> 98.39%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg</p> 	<p><b>N-Benzylinolenamide</b></p> <p>Cat. No.: HY-N3033</p> <p>N-Benzylinolenamide is a natural macamide isolated from Lepidium meyenii, acts as an inhibitor of fatty acid amide hydrolase (FAAH) with an <math>IC_{50}</math> of 41.8 <math>\mu</math>M.</p> <p><b>Purity:</b> &gt;98%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 5 mg, 10 mg, 20 mg</p> 
<p><b>PF 750</b></p> <p>Cat. No.: HY-18081</p> <p>PF 750 is a selective and covalent fatty acid amide hydrolase (FAAH) inhibitor, with <math>IC_{50}</math>s varied from 16.2-595 nM in different pre-incubation times. Covalently modifies the enzyme's active site serine nucleophile.</p> <p><b>Purity:</b> <math>\geq</math>98.0%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 1 mg</p> 	<p><b>PF-04457845</b></p> <p>Cat. No.: HY-14376</p> <p>PF-04457845 is a highly efficacious and selective FAAH inhibitor with <math>IC_{50}</math> values is <math>7.2 \pm 0.63</math> nM and <math>7.4 \pm 0.62</math> nM for hFAAH and rFAAH, respectively.</p> <p><b>Purity:</b> 99.37%  <b>Clinical Data:</b> Phase 2  <b>Size:</b> 10 mM <math>\times</math> 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg</p> 
<p><b>PF-3845</b></p> <p>Cat. No.: HY-14380</p> <p>PF-3845 is a potent, selective, irreversible and orally active inhibitor of fatty acid amide hydrolase (FAAH), with a <math>K_i</math> of 0.23 <math>\mu</math>M. PF-3845 is a covalent inhibitor that carbamylates FAAH's serine nucleophile.</p> <p><b>Purity:</b> 99.90%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 10 mM <math>\times</math> 1 mL, 5 mg, 10 mg, 50 mg, 100 mg</p> 	<p><b>SA 47</b></p> <p>Cat. No.: HY-18080</p> <p>SA 47 is a selective and potent inhibitor of fatty acid amide hydrolase (FAAH) and carbamate.</p> <p><b>Purity:</b> <math>\geq</math>99.0%  <b>Clinical Data:</b> No Development Reported  <b>Size:</b> 10 mM <math>\times</math> 1 mL, 5 mg</p> 

**SA57**

Cat. No.: HY-103463

SA57 is a potent, selective **FAAH** inhibitor with  $IC_{50}$ s of 3.2 nM and 1.9 nM for **mouse and human** FAAH.

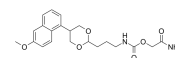


**Purity:** ≥99.0%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg

**SA72**

Cat. No.: HY-U00240

SA72 is a highly selective **fatty acid amide hydrolase (FAAH)** inhibitor.

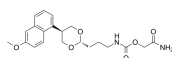


**Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg

**SSR411298**

Cat. No.: HY-123863

SSR411298 is an orally active, selective and reversible **fatty acid amide hydrolase (FAAH)** inhibitor. SSR411298 has the potential for post-traumatic stress disorder research.



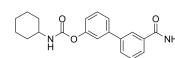
**Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

**URB-597**

(KDS-4103)

Cat. No.: HY-10864

URB-597 (KDS-4103) is an orally bioavailable and selective **FAAH** inhibitor. URB-597 inhibits FAAH activity with an  $IC_{50}$ s of approximately 5 nM in rat brain membranes, 0.5 nM in intact rat neurons, 3 nM in human liver microsomes. Antidepressant-like effects. Analgesic activity.

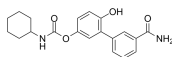


**Purity:** 99.01%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 10 mg, 25 mg, 50 mg, 100 mg

**URB937**

Cat. No.: HY-116477

URB937 is an orally active and peripherally restricted **FAAH** inhibitor ( $IC_{50}$ =26.8 nM) and increases anandamide levels. URB937 fails to affect FAAH activity in the brain (not penetrate the blood-brain barrier).



**Purity:** 99.86%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg, 10 mg, 50 mg