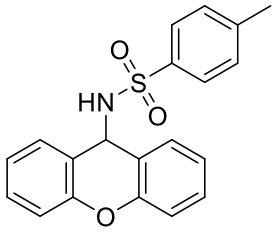
Product data sheet

MedKoo Cat#: 562776 Name: AH-7614 CAS#: 6326-06-3 Chemical Formula: $C_{20}H_{17}NO_3S$ Exact Mass: 351.0929 Molecular Weight: 351.42	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
AH-7614 is a selective free fatty acid receptor 4 (FFA4/GPR120) antagonist.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	30.0	85.37

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.85 mL	14.23 mL	28.46 mL
5 mM	0.57 mL	2.85 mL	5.69 mL
10 mM	0.28 mL	1.42 mL	2.85 mL
50 mM	0.06 mL	0.28 mL	0.57 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Park Y, Ku L, Lim JW, Kim H. Docosahexaenoic acid inhibits zymogen activation by suppressing vacuolar ATPase activation in cerulein-stimulated pancreatic acinar cells. Genes Nutr. 2020 Mar 23;15(1):6. doi: 10.1186/s12263-020-00664-2. PMID: 32293245; PMCID: PMC7092610.

In vivo study

1. Wang CP, Lee CC, Wu DY, Chen SY, Lee TM. Differential effects of EPA and DHA on PPARγ-mediated sympathetic innervation in infarcted rat hearts by GPR120-dependent and -independent mechanisms. J Nutr Biochem. 2022 Feb 1;103:108950. doi: 10.1016/j.jnutbio.2022.108950. Epub ahead of print. PMID: 35121022.
2. Chen WT, Chen SY, Wu DW, Lee CC, Lee TM. Effect of icosapent ethyl on susceptibility to ventricular arrhythmias in postinfarcted rat hearts: Role of GPR120-mediated connexin43 phosphorylation. J Cell Mol Med. 2020 Aug;24(16):9267-9279. doi: 10.1111/jcmm.15575. Epub 2020 Jul 8. PMID: 32639107; PMCID: PMC7417730.

7. Bioactivity
Biological target:

AH-7614 is a potent and selective FFA4 (GPR120) antagonist, with pIC50s of 7.1, 8.1, and 8.1 for human, mouse, and rat FFA4, respectively, as well as has selectivity for FFA4 over FFA1 (pIC50<4.6).

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In vitro activity

To elucidate the mechanism underlying the inhibitory effect of DHA on cerulein-induced zymogen activation via the GPR120 and GPR40 signaling pathway, we investigated whether a GPR120 antagonist AH-7614 and a GPR40 antagonist DC260126 could suppress this inhibitory effect of DHA. As shown in Fig. Fig.4,4, cerulein stimulation increased zymogen activation, and this was inhibited by DHA. However, AH-7614 suppressed the inhibitory effect of DHA on cerulein-induced zymogen activation.

Reference: Genes Nutr. 2020 Mar 23;15(1):6. https://pubmed.ncbi.nlm.nih.gov/32293245/

In vivo activity

To further confirm the requirement of GPR120 and PPARγ in the regulation of IL-1β and NGF production, the antagonists of GPR120 and PPARγ were used in infarcted rats. AH-7614 reversed the attenuated levels of IL-1β levels and NGF compared with EPA or DHA alone, implying that GPR120 is a downstream molecule of ω-3 PUFAs. The relation between both signaling pathways of GPR120 and PPARγ was also assessed. A significant decrease in PPARγ was observed in infarcted hearts infused with a GPR120 antagonist, AH-7614.

Reference: J Nutr Biochem. 2022 Feb 1;103:108950. https://pubmed.ncbi.nlm.nih.gov/35121022/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.