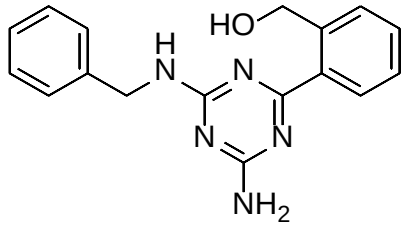
Product data sheet

MedKoo Cat#: 563604 Name: Ogerin CAS: 1309198-71-7 Chemical Formula: $C_{17}H_{17}N_5O$ Exact Mass: 307.1433 Molecular Weight: 307.357	
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:
Ogerin is a selective GPR68 PAM, suppressing recall in fear conditioning in wild-type but not in GPR68-knockout mice.

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	110.24	358.68
Ethanol	6.15	20.0

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.25 mL	16.27 mL	32.54 mL
5 mM	0.65 mL	3.25 mL	6.51 mL
10 mM	0.33 mL	1.63 mL	3.25 mL
50 mM	0.07 mL	0.33 mL	0.65 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. Greenwald E, Posner C, Bharath A, Lyons A, Salmerón C, Sriram K, Wiley SZ, Insel PA, Zhang J. GPCR Signaling Measurement and Drug Profiling with an Automated Live-Cell Microscopy System. ACS Sens. 2023 Jan 27;8(1):19-27. doi: 10.1021/acssensors.2c01341. Epub 2023 Jan 5. PMID: 36602887; PMCID: PMC9994309.
2. Bell TJ, Nagel DJ, Woeller CF, Kottmann RM. Ogerin mediated inhibition of TGF-β(1) induced myofibroblast differentiation is potentiated by acidic pH. PLoS One. 2022 Jul 28;17(7):e0271608. doi: 10.1371/journal.pone.0271608. PMID: 35901086; PMCID: PMC9333254.

In vivo study

1. Huang XP, Karpiak J, Kroeze WK, Zhu H, Chen X, Moy SS, Saddoris KA, Nikolova VD, Farrell MS, Wang S, Mangano TJ, Deshpande DA, Jiang A, Penn RB, Jin J, Koller BH, Kenakin T, Shoichet BK, Roth BL. Allosteric ligands for the pharmacologically dark receptors GPR68 and GPR65. Nature. 2015 Nov 26;527(7579):477-83. doi: 10.1038/nature15699. Epub 2015 Nov 9. PMID: 26550826; PMCID: PMC4796946.

7. Bioactivity
Biological target:

Ogerin is a selective GPR68 positive aliasing modulator (PAM) (pEC_{50}=6.83) with a moderate antagonistic effect on A2A (K_i=220 nM).

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In vitro activity

Ogerin is a positive allosteric modulator (PAM) of GPR68, inducing a leftward shift of the dose response curve to proton induced signaling. Using PHLFs derived from patients with both non-fibrotic and IPF diagnoses, this study shows that Ogerin inhibits, and partially reverses TGF-β induced myofibroblast differentiation in a dose dependent manner. This occurs at the transcriptional level without inhibition of canonical TGF-β induced SMAD signaling. Ogerin induces PKA dependent CREB phosphorylation, a marker of Gαs pathway activation. The ability of Ogerin to inhibit both basal and TGF-β induced collagen gene transcription, and induction of Gαs signaling is enhanced at an acidic pH (pH 6.8).

Reference: PLoS One. 2022 Jul 28;17(7):e0271608. https://pubmed.ncbi.nlm.nih.gov/35901086/

In vivo activity

In WT mice, ogerin attenuated contextual-based fear memory without effects on cue-based memory (Figure 4c–d). Crucially, administration of ogerin had no effect on memory retrieval in GPR68 KO mice (Figure 4c–d), indicating that ogerin's in vivo effects are GPR68-dependent. Furthermore, the less active ogerin isomer, ZINC32547799, had no measurable effect on learning and memory in wild-type mice (Figure 4c–d and Extended Data Fig 8d–h). Ogerin's effects thus support a role for GPR68 in hippocampal-associated memory.

Reference: Nature. 2015 Nov 26;527(7579):477-83. https://pubmed.ncbi.nlm.nih.gov/26550826/

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.