

Product data sheet



MedKoo Cat#: 525795 Name: MR2034 CAS: 57236-85-8 Chemical Formula: C ₁₉ H ₂₉ NO ₂ Exact Mass: 303.2198 Molecular Weight: 303.446	
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:

MR2034 is a kappa-Opioid receptor agonist, stimulating hypothalamic-pituitary-adrenal axis.

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.30 mL	16.48 mL	32.95 mL
5 mM	0.66 mL	3.30 mL	6.59 mL
10 mM	0.33 mL	1.65 mL	3.30 mL
50 mM	0.07 mL	0.33 mL	0.66 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

Calogero AE, Scaccianoce S, Burrello N, Nicolai R, Muscolo LA, Kling MA, Angelucci L, D'Agata R. The kappa-opioid receptor agonist MR-2034 stimulates the rat hypothalamic-pituitary-adrenal axis: studies in vivo and in vitro. *J Neuroendocrinol.* 1996 Aug;8(8):579-85. PMID: 8866244.

In vivo study

Calogero AE, Scaccianoce S, Burrello N, Nicolai R, Muscolo LA, Kling MA, Angelucci L, D'Agata R. The kappa-opioid receptor agonist MR-2034 stimulates the rat hypothalamic-pituitary-adrenal axis: studies in vivo and in vitro. *J Neuroendocrinol.* 1996 Aug;8(8):579-85. PMID: 8866244.

7. Bioactivity

Biological target:

MR2034 is a kappa-Opioid receptor agonist.

In vitro activity

Accordingly, MR-2034 stimulated hypothalamic CRH release in vitro in a concentration-dependent fashion and this effect was antagonized dose-dependently by MR-1452.

Reference: *J Neuroendocrinol.* 1996 Aug;8(8):579-85. <https://pubmed.ncbi.nlm.nih.gov/8866244/>

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In vivo activity

MR-2034 was given intravenously to catheterized, freely moving, male Sprague-Dawley rats and serial blood samples were collected for ACTH and corticosterone (B) measurements. We evaluated also the site of MR-2034 action on the HPA axis in vivo, after the administration of alpha-helical CRH9-41, a CRH receptor antagonist, on hypothalamic CRH, pituitary ACTH, and B release in vitro. MR-2034 increased plasma ACTH and B levels in a dose-related fashion and this effect was antagonized by the selective kappa-opioid receptor antagonist MR-1452. In the presence of alpha-helical CRH9-41, the responses of plasma ACTH and B to MR-2034 were blunted significantly, suggesting that this compound activates the HPA axis through a CRH-dependent mechanism.

Reference: J Neuroendocrinol. 1996 Aug;8(8):579-85. <https://pubmed.ncbi.nlm.nih.gov/8866244/>

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.