# Rat CGRP-(8-37)

**Cat. No.:** HY-P0209

**CAS No.:** 129121-73-9

**Molecular Formula:** $C_{138}H_{224}N_{42}O_{41}$

**Molecular Weight:** 3127.51

VTHRLAGLLSRSGGVVKDNFVPTNVGSEAF-$NH_2$

**Sequence:** Val-Thr-His-Arg-Leu-Ala-Gly-Leu-Leu-Ser-Arg-Ser-Gly-Gly-Val-Val-Lys-Asp-Asn-Phe-Val-Pro-Thr-Asn-Val-Gly-Ser-Glu-Ala-Phe-NH2

**Sequence Shortening:** VTHRLAGLLSRSGGVVKDNFVPTNVGSEAF-NH2

**Target:** CGRP Receptor

**Pathway:** GPCR/G Protein; Neuronal Signaling

**Storage:** Sealed storage, away from moisture and light

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)

## SOLVENT & SOLUBILITY

**In Vitro**

$H_2O$ : 25 mg/mL (7.99 mM; Need ultrasonic)

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 0.3197 mL | 1.5987 mL | 3.1974 mL |
| | 5 mM | 0.0639 mL | 0.3197 mL | 0.6395 mL |
| | 10 mM | --- | --- | --- |

Please refer to the solubility information to select the appropriate solvent.

## BIOLOGICAL ACTIVITY

**Description** Rat CGRP-(8-37) (VTHRLAGLLSRSGGVVKDNFVPTNVGSEAF) is a highly selective CGRP receptor antagonist.

**$IC_{50}$ & Target** CGRP receptor[1]

**In Vitro** CGRP-(8-37) is a truncated version of calcitonin gene-related peptide (CGRP) that binds to the CGRP receptor with similar affinity but does not activate the receptor[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo** CGRP-(8-37) is effective in alleviating mechanical and thermal allodynia in a dose-dependent manner. The 50 nM dose is most efficacious for both forelimb and hindlimb responses. The period of efficacy is 10 min to onset for a duration of 20 min.

Post-drug washout responses are not statistically significant compared to pre-drug responses[1]. Intrathecal administration of 5 nmol or 10 nmol of CGRP-(8-37), but not 1 nmol, induces a significant increase in hindpaw withdrawal latency. Intrathecal administration of CGRP-(8-37) not only reverses the SP-induced decrease in latency to both withdrawal responses but also mediates a significant increase in response latency compared to basal levels[2].

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## PROTOCOL

**Animal Administration** [1]

Rats: Adult male Sprague Dawley rats are given a spinal hemisection or a sham surgery at the T13 spinal segment. An externally accessible PE-10 intrathecal catheter that terminated at T13 is used for drug delivery. Animals are allowed to recover for 4 weeks at which time the hemisected animals displayed mechanical and thermal allodynia bilaterally, in both forelimbs and hindlimbs. CGRP-(8-37) is delivered just prior to a testing session in 1, 5, 10, or 50 nM doses in artificial cerebral spinal fluid in 10 mL volumes[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- J Neuroinflammation. 2021 May 21;18(1):117.
- J Headache Pain. 2022 Dec 12;23(1):157.
- J Invest Dermatol. 2022 Jan 12;S0022-202X(22)00007-0.
- Int Immunopharmacol. 2023 Jan 25;116:109747.
- Front Pharmacol. 2022 Mar 8;13:835187.

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## REFERENCES

[1]. Bennett AD, et al. Alleviation of mechanical and thermal allodynia by CGRP(8-37) in a rodent model of chroniccentral pain. Pain. 2000 May;86(1-2):163-75.

[2]. Yu LC, et al. The calcitonin gene-related peptide antagonist CGRP8-37 increases the latency to withdrawalresponses in rats. Brain Res. 1994 Aug 8;653(1-2):223-30.



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