

Calcitonin Gene Related Peptide (CGRP) (83-119), rat TFA

Cat. No.:	HY-P1462A
Molecular Formula:	C ₁₆₂ H ₂₆₂ N ₅₀ O ₅₂ S ₂ ·C ₂ HF ₃ O ₂
Molecular Weight:	3920.32
Sequence:	Ser-Cys-Asn-Thr-Ala-Thr-Cys-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-NH ₂ (Disulfide bridge: Cys2-Cys7) <small>SCNTATCVTHRLAQLLSRSGGVVWVDFVPTNVGSEAF-NH₂ (Disulfide bridge: Cys2-Cys7) (TFA salt)</small>
Sequence Shortening:	SCNTATCVTHRLAQLLSRSGGVVWVDFVPTNVGSEAF-NH ₂ (Disulfide bridge: Cys2-Cys7)
Target:	CGRP Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Stored under nitrogen Powder -80°C 2 years -20°C 1 year * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)

SOLVENT & SOLUBILITY

In Vitro

H₂O : 10 mg/mL (2.55 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
	Concentration				
	1 mM		0.2551 mL	1.2754 mL	2.5508 mL
	5 mM		---	---	---
	10 mM		---	---	---

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

BIOLOGICAL ACTIVITY

Description

Calcitonin Gene Related Peptide (CGRP) (83-119), rat (TFA) is a 37 amino acid calcitonin family of neuropeptide, acts through calcitonin receptor-like receptor (CRLR).

IC₅₀ & Target

CRLR^[1].

In Vitro

Calcitonin Gene Related Peptide (CGRP) (83-119), rat (TFA) belongs to the calcitonin family of neuropeptides which also includes adrenomedullin, amylin, calcitonin, intermedin and calcitonin receptor-stimulating peptide. Calcitonin Gene Related Peptide (CGRP) has two isoforms (αCGRP and βCGRP), and acts through calcitonin receptor-like receptor (CRLR)^[1]. Calcitonin Gene Related Peptide (CGRP) plays a key role in migraine pathophysiology and is associated with activation of the trigeminovascular system. CGRP possibly acts postjunctionally in these areas putatively involved in primary headaches^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Calcitonin Gene Related Peptide (CGRP) (83-119), rat (TFA) is a potent inducer of oedema in rat orofacial tissue. CGRP (100 µ L; 8-33 pM) induces a rapidly developing (5-15 min) and long-lasting (6 h), dose-dependent oedema in the rat cheek. CGRP induces a smaller oedematogenic effect in the rat hind paw also blocked by the CGRP antagonist. CGRP (16 pM) potentiates the oedema induced by co-injected substance P (3.7 nM)^[3].

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

PROTOCOL

Animal Administration ^[3]

Rats^[3]

Male Wistar rats, weighing 150-250 g, are used throughout this study. As soon as the righting reflex is lost, the initial (t=0) measurement of cheek thickness (in mm) is made with digital calipers, the intra-oral injection given and then cheek thickness measured again at 5, 15 and 30 min, 1, 2, 3, 4, 6 and 24 h, following agonists (Calcitonin Gene Related Peptide (CGRP) (83-119), rat (TFA), etc) or saline injections. Cheek thickness in λ-carrageenan (CG)-injected animals is measured at 0, 15, 30 min, 1, 2, 3, 4, 5, 6 and 24 h. Paw thickness (in mm) is obtained similarly, using the calipers at the time points indicated for cheek oedema, with the only difference being that the animals are not anesthetized for local (intraplantar) injections^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Neurochem Res. 2020 Dec;45(12):2926-2938.
- Int J Ophthalmol. 2020 May 18;13(5):701-707.
- Turk J Biochem. 2021 Mar 1.

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REFERENCES

- [1]. S. Ghatta, et al. Calcitonin gene-related peptide: Understanding its role. Educational Forum. 20.6.2004.
- [2]. Eftekhari S, et al. Calcitonin gene-related peptide (CGRP) and its receptor components in human and rat spinal trigeminal nucleus and spinal cord at C1-level. BMC Neurosci. 2011 Nov 10;12:112.
- [3]. Queiroz BFG, et al. Calcitonin-gene related peptide is a potent inducer of oedema in rat orofacial tissue. Neuropeptides. 2018 Apr;68:43-48.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA