

## Calcitonin Gene Related Peptide (CGRP) II, rat TFA

<b>Cat. No.:</b>	HY-P1913A
<b>Molecular Formula:</b>	C <sub>165</sub> H <sub>268</sub> F <sub>3</sub> N <sub>51</sub> O <sub>52</sub> S <sub>2</sub>
<b>Molecular Weight:</b>	3919.33
<b>Sequence:</b>	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-Lys-Ala-Phe-NH <sub>2</sub> (Disulfide bridge: Cys2-Cys7) <small>SCNTATCVTHRLAGLLSRSGGVKDNFVPTNVGSKAF-NH<sub>2</sub> (Disulfide bridge: Cys2-Cys7) (TFA salt)</small>
<b>Sequence Shortening:</b>	SCNTATCVTHRLAGLLSRSGGVKDNFVPTNVGSKAF-NH <sub>2</sub> (Disulfide bridge: Cys2-Cys7)
<b>Target:</b>	CGRP Receptor
<b>Pathway:</b>	GPCR/G Protein; Neuronal Signaling
<b>Storage:</b>	Sealed storage, away from moisture Powder    -80°C    2 years -20°C    1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 25 mg/mL (6.38 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
	Concentration				
	1 mM		0.2551 mL	1.2757 mL	2.5515 mL
	5 mM		0.0510 mL	0.2551 mL	0.5103 mL
	10 mM		---	---	---

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

### BIOLOGICAL ACTIVITY

#### Description

Calcitonin Gene Related Peptide (CGRP) II, rat TFA, a CGRP receptor activator, is a potent and long-lasting vasodilator. Calcitonin Gene Related Peptide (CGRP) II TFA can be used in the research of cardiovascular diseases<sup>[1]</sup>.

#### In Vitro

Calcitonin Gene Related Peptide (CGRP) II, rat TFA induces vasodilator effects in small-diameter pig left anterior descending (LAD) coronary arteries with an EC<sub>50</sub> value of 0.56 nM<sup>[1]</sup>.

Calcitonin Gene Related Peptide (CGRP) II, rat TFA relaxes the spontaneous tone in isolated internal anal sphincter (IAS) strips, with an EC<sub>50</sub> value of 83 μM<sup>[2]</sup>.

Calcitonin Gene Related Peptide (CGRP) II, rat TFA (rβCGRP) inhibits [<sup>125</sup>I]hαCGRP binding (IC<sub>50</sub>: 7 nM), and stimulates cAMP accumulation (EC<sub>50</sub>: 0.56 nM) in the cells co-expressing mRAMP1 (mouse receptor-activity-modifying-protein 1) and rCRLR (rat calcitonin receptor-like receptor)<sup>[3]</sup>.

Calcitonin Gene Related Peptide (CGRP) II, rat TFA (rat-βCGRP, 0.01-100 nM) induces endothelium-independent relaxations in the coronary arteries from male and female Sprague-Dawley rats, with an IC<sub>50</sub> value of 2.8 nM approximately<sup>[4]</sup>.

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

#### In Vivo

Calcitonin Gene Related Peptide (CGRP) II, rat TFA (rat- $\beta$ CGRP, bolus injection, 0.3  $\mu$ g/kg, at 10 min intervals) induces hypotension and vasodilatation in Male Sprague-Dawley rats<sup>[5]</sup>.

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

Animal Model:	Male Sprague-Dawley rats <sup>[5]</sup>
Dosage:	0.01 ng/kg-3 $\mu$ g/kg (100 $\mu$ L), succeeded by a 150 $\mu$ L isotonic saline flush, at 10 min intervals.
Administration:	A bolus injection
Result:	Induced PA (pial artery) dilatation and increased in LCBF <sub>Flux</sub> (local cortical cerebral blood flow).

## REFERENCES

- [1]. D Wu, et al. Development and potential of non-peptide antagonists for calcitonin-gene-related peptide (CGRP) receptors: evidence for CGRP receptor heterogeneity. *Biochem Soc Trans.* 2002 Aug;30(4):468-73.
- [2]. F M Wiskirchen, et al. CGRP(2) receptor in the internal anal sphincter of the rat: implications for CGRP receptor classification. *Br J Pharmacol.* 2000 May;130(2):464-70.
- [3]. K Husmann, et al. Mouse receptor-activity-modifying proteins 1, -2 and -3: amino acid sequence, expression and function. *Mol Cell Endocrinol.* 2000 Apr 25;162(1-2):35-43.
- [4]. M Sheykhzade, et al. Characterization of calcitonin gene-related peptide (CGRP) receptors in intramural coronary arteries from male and female Sprague Dawley rats. *Br J Pharmacol.* 1998 Apr;123(7):1464-70.
- [5]. Kenneth A Petersen, et al. Inhibitory effect of BIBN4096BS on cephalic vasodilatation induced by CGRP or transcranial electrical stimulation in the rat. *Br J Pharmacol.* 2004 Nov;143(6):697-704.

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

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