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

Cat. No.: HY-P1462
Molecular Formula: C₁₆₂H₂₆₂N₅₀O₅₂S₂
Molecular Weight: 3806.3
Target: CGRP Receptor
Pathway: GPCR/G Protein; Neuronal Signaling
Storage: Please store the product under the recommended conditions in the COA.

Solvent & Solubility

<table>
<thead>
<tr>
<th>In Vitro</th>
<th>10 mM in H₂O</th>
</tr>
</thead>
</table>

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>Mass (1 mg)</th>
<th>Mass (5 mg)</th>
<th>Mass (10 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>0.2627 mL</td>
<td>1.3136 mL</td>
<td>2.6272 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.0525 mL</td>
<td>0.2627 mL</td>
<td>0.5254 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.0263 mL</td>
<td>0.1314 mL</td>
<td>0.2627 mL</td>
</tr>
</tbody>
</table>

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

BIOLOGICAL ACTIVITY

Description
Calcitonin Gene Related Peptide (CGRP) (83-119), rat is a 37 amino acid calcitonin family of neuropeptide, acts through calcitonin receptor-like receptor (CRLR). 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-NH₂ (Disulfide bridge: Cys2-Cys7); SCNTATCVTHRLAGLSSGGVVKDFPVTPNVGSEAF-NH₂ (Disulfide bridge: Cys2-Cys7).

IC₅₀ & Target
CRLR[3]

In Vitro
Calcitonin Gene Related Peptide (CGRP) (83-119), rat 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].

In Vivo
CGRP is a potent inducer of oedema in rat orofacial tissue. CGRP (100 µL; 8-33 pmol) induces a rapidly developing (5-15 min) and long-lasting (6h), 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 pmol) potentiates the oedema induced by co-injected substance P (3.7 nmol)\(^3\).

**PROTOCOL**

**Animal Administration** \(^3\)

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 (CGRP, etc) or **saline injections**. Cheek thickness in \(\lambda\)-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.

**REFERENCES**


\(\text{Caution: Product has not been fully validated for medical applications. For research use only.}\)

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