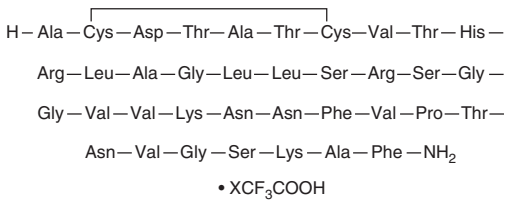
PRODUCT INFORMATION

α-CGRP (human) (trifluoroacetate salt)

Item No. 24405

Synonyms: α-Calcitonin Gene-Related Peptide (human), Calcitonin Gene-Related Peptide-1 (human), CGRP-1 (human)
MF: $C_{163}H_{267}N_{51}O_{49}S_2 \bullet XCF_3COOH$
FW: 3,789.3
Purity: ≥95%
Supplied as: A lyophilized powder
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

α-Calcitonin gene-related peptide (α-CGRP) (human) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the α-CGRP (human) (trifluoroacetate salt) in water. The solubility of α-CGRP (human) (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

α-CGRP is a neuropeptide with diverse biological activities.[1] It belongs to the calcitonin family of peptides, which also includes amylin (Item No. 24274), calcitonin (Item Nos. 24409 | 24410), and adrenomedullin.[2] α-CGRP binds selectively to a heteromeric complex of calcitonin receptor-like receptor (CRLR) and receptor activity-modifying protein 1 (RAMP1; IC_{50} = 0.1 nM) over a complex of CLCR and RAMP2 (IC_{50} = 1,300 nM).[3] It also binds selectively to complexes of human calcitonin receptor 2 (CTR2) and RAMP1 (IC_{50} = 43.7 nM) compared to CTR2 and RAMP2 complexes (IC_{50} = 141.3 nM) in amylin radioligand displacement assays.[4] α-CGRP induces cAMP-activated currents in *Xenopus* oocytes with endogenous Cgrp receptors that overexpress RAMP1 (EC_{50} = 9 nM).[3] It also induces cAMP accumulation in COS-7 cells transfected with both CTR2 and RAMP1 (EC_{50} = 8.32 nM).[4]

References

1. Russell, F.A., King, R., Smillie, S.-J., *et al.* Calcitonin gene-related peptide: Physiology and pathophysiology. *Physiol. Rev.* **94(4)**, 1099-1142 (2014).
2. Wimalawansa, S.J. Amylin, calcitonin gene-related peptide, calcitonin, and adrenomedullin: A peptide superfamily. *Crit. Rev. Neurobiol.* **11(2-3)**, 167-239 (1997).
3. McLatchie, L.M., Fraser, N.J., Main, M.J., *et al.* RAMPs regulate the transport and ligand specificity of the calcitonin-receptor-like receptor. *Nature* **393(6683)**, 333-339 (1998).
4. Udawela, M., Christopoulos, G., Tilakaratne, N., *et al.* Distinct receptor activity-modifying protein domains differentially modulate interaction with calcitonin receptors. *Mol. Pharmacol.* **69(6)**, 1984-1989 (2006).

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