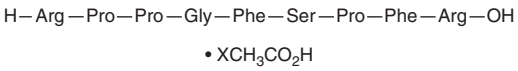
PRODUCT INFORMATION

Bradykinin (human, mouse, rat, bovine) (acetate)

Item No. 37408

CAS Registry No.: 6846-03-3
Synonyms: Arg-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg-OH, BK, RPPGFSPFR-OH
MF: $C_{50}H_{73}N_{15}O_{11} \bullet XC_2H_4O_2$
FW: 1,060.2
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Bradykinin (human, mouse, rat, bovine) (acetate) is supplied as a solid. A stock solution may be made by dissolving the bradykinin (human, mouse, rat, bovine) (acetate) in the solvent of choice, which should be purged with an inert gas. Bradykinin (human, mouse, rat, bovine) (acetate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of bradykinin (human, mouse, rat, bovine) (acetate) in these solvents is approximately 10, 12, and 5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of bradykinin (human, mouse, rat, bovine) (acetate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of bradykinin (human, mouse, rat, bovine) (acetate) in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Bradykinin is an endogenous vasodilator that is also involved in inflammation.[1,2] It is formed from kininogen *via* cleavage of high molecular weight kininogen (HMWK) by kallikrein or prekallikrein in a Factor XIIa-dependent or -independent manner.[3] Bradykinin binds to the bradykinin B_2 receptor (IC_{50} = 0.54 nM in COS-7 cells expressing the human receptor) and acts as an agonist but does not bind the bradykinin B_1 receptor (K_i = >10,000 nM in HEK293 cells expressing the human receptor).[4,5] It stimulates arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) release in CHO cells expressing the human bradykinin B_2 receptor (EC_{50} = 0.7 nM).[4] Bradykinin (100 nM) induces relaxation of isolated porcine coronary arterial rings precontracted with acetylcholine (ACh; Item No. 23829) or phorbol 12,13-dibutyrate (PDBu; Item No. 27785).[1] It induces hyperalgesia in mice when administered at a dose of 1 µg/paw, an effect that can be reversed by the bradykinin B_2 antagonist icatibant (HOE 140; Item No. 24083).[2] Plasma levels of bradykinin are increased in patients during an acute attack of angioedema.[6]

References

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3. Joseph, K., Tholanikunnel, B.G., and Kaplan, A.P. *J. Allergy Clin. Immunol.* **124(1),** 143-149 (2009).
4. Hess, J.F., Borkowski, J.A., Macneil, T., *et al. Mol. Pharmacol.* **45(1),** 1-8 (1994).
5. Bastian, S., Loillier, B., Paquet, J.L., *et al. Br. J. Pharmacol.* **122(2),** 393-399 (1997).
6. Nussberger, J., Cugno, M., Amstutz, C., *et al. Lancet* **351(9117),** 1693-1697 (1998).

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