

**Lys-Bradykinin Protein****A Ligand of B2 Bradykinin G-Protein Coupled Receptor****Catalog # PG10015****Specification**

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**Lys-Bradykinin Protein - Product Information****Lys-Bradykinin Protein - Additional Information****Storage****-20°C****Precautions**

Lys-Bradykinin Protein is for research use only and not for use in diagnostic or therapeutic procedures.

**Lys-Bradykinin Protein - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**Lys-Bradykinin Protein - Images****Lys-Bradykinin Protein - Background**

Kinins are small peptides rapidly produced following tissue injury that serve as important modulators of inflammation and pain. In the periphery, the actions of kinins include vasodilatation, increased vascular permeability, stimulation of immune cells, and induction of pain. Kinins in the central nervous system (CNS) appear to initiate a similar cascade of events leading to neural tissue damage as well as long lasting disturbances affecting blood-brain barrier function<sup>1</sup>. Kinins such as Bradykinin (BK), Lys-BK, desArg9-BK, and Lys-desArg9-BK exert their action via two distinct G protein-coupled receptors (GPCR): the B1 Bradykinin receptor (BKR1) and the B2 Bradykinin receptor (BKR2)<sup>2</sup>. Activation of BKR2 liberates mediators of vascular tone, fibrinolysis, and pain. BKR2, which mediates most of the physiological effects of kinins, as well as BKR1, represent potential therapeutic targets for treatment of inflammatory disorders and cardiovascular diseases. Expression of BKR1 is inducible upon various types of tissue injury and by inflammatory mediators such as bacterial lipopolysaccharide (LPS) and cytokines. A low level of expression of BKR1 in the CNS of rodent and primates was recently demonstrated<sup>3</sup>. BKR2 is constitutively and widely expressed throughout the CNS and peripheral nervous system and on various cell types including endothelial cells, nerve fibers, leukocytes, and mast cells<sup>3-5</sup>. Lys-Bradykinin is an endogenous nonspecific agonist for BKR1 and BKR2, with some specificity towards the BKR2<sup>6</sup>.

Activation of Bradykinin receptors with Lys-Bradykinin may induce intracellular  $\text{Ca}^{2+}$  elevation<sup>7</sup>. 100 nM Lys-Bradykinin induced  $\text{Ca}^{2+}$  transients in rat aortic endothelium cells (RAEC) (see figure here and review in reference #8).

### **Lys-Bradykinin Protein - References**

1 . Walker, K. et al(1995)Neurochem. Int. 26, 1.2 . Bockmann, S. and Paegelow, I. (2000) J. Leukoc. Biol. 68, 587.3 . Hess, J.F. et al.(2004)J. Pharmacol. Exp. Ther.310, 488.4 . Souza, D.G. et al.(2004)J. Immunol. 172, 2542.5 . Calixto, J.B. et al.(2000)Pain87, 1.6 . Leeb-Lundberg, L. M. F. et al.(2005)Pharmacol. Rev.57,27.7 . Pallone, T. L. et al.(1998)Am. J. Physiol.274,H752.8 . Karaki, H. et al.(1998)Pharmacol. Rev.49,157.