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#### Basic Study

Human ciliary muscle cell responses to kinins: Activation of ERK1/2 and pro-matrix metalloproteinases secretion

Najam A Sharif, Rajkumar Patil, Linya Li, Shahid Husain

#### Abstract

**AIM:** To study activation of extracellular signal-regulated kinase-1/2 (ERK1/2) and pro-matrix metalloproteinases (pro-MMPs) secretion from isolated primary human ciliary muscle (h-CM) cells in response to bradykinin (BK) and other agonists.

**METHODS:** Serum-starved h-CM cells were challenged with vehicle, BK agonists or antagonists. Cell lysates were evaluated for phosphorylated ERK1/2 using homogeneous time-resolved fluorescence technology based on a sandwich immunoassay. Rabbit polyclonal anti-pro-MMP antibodies were used to measure pro-MMPs using immunoblot analysis.

**RESULTS:** A 10 min incubation time using  $5 \times 10^4$  h-CM cells/well was optimum condition for studying stimulation of ERK1/2 phosphorylation. BK (100 nM) caused a

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