



PROSTATE SUPPORT:

GRAMINEX Flower Pollen Extract

Effects of Pollen-Extract Components, Diamines and Derivatives of Feruloylputrescine on Isolated Bladder and Urethral Smooth Muscles of Mice

Nakase K, Kimura I, Kimura M.

Department of Chemical Pharmacology, Faculty of Pharmaceutical Sciences, Toyama Medical and Pharmaceutical University, Japan.
Jpn J Pharmacol. 1990 Jun; 53(2):157-64.

The contracting or inhibitory effects of pollen-extract components, diamines and derivatives of feruloylputrescine (FP) were investigated on the isolated bladder or urethral smooth muscles of mice. Among the nine diamines ($\text{NH}_2(\text{CH}_2)_n\text{NH}_2$, $n = 2-10$) tested, five of them with shorter carbon chains ($n = 2-6$) (0.1-30.0 mM) only slightly contracted the bladder strips and to some extent inhibited the noradrenaline (NA, 1.77 μM)-induced contraction of urethral strips. 1,5-Diaminopentane (C5), a component of the pollen-extract, inhibited most effectively the NA induced contraction of urethral strips with an IC_{50} value of 2.3 mM (95% confidence limit: 2.0- 2.6 mM). FP, also a component of the pollen-extract, inhibited the NA-induced contraction of urethral strips in a non-competitive manner, producing 32.5 +/- 5.5% ($N = 5$) inhibition at 378 μM . Among the derivatives of FP, feruloylcadaverine inhibited urethral contraction most potently, producing 46.3 +/- 7.1% ($N = 5$) inhibition at 359 μM . These derivatives had no effect on bladder contraction. In contrast, four diamines with longer carbon chains ($n = 7-10$) contracted the bladder strips (3-30 mM) and potentiated the NA-induced contraction of urethral strips (10 μM -3 mM). Thus, the components of the pollen-extract, FP and C5, potently inhibited urethral contraction, which may facilitate the discharge of urine in vivo.

PMID: 2385002 [PubMed - indexed for MEDLINE]