

()
/ /
/ /

(*Teucrium polium*)

*

(*Teucrium polium*) :

(Wistar) :
(mM) (mg/ml / /)
)L-NAME .(P< /) (μM)
μM ((μM)

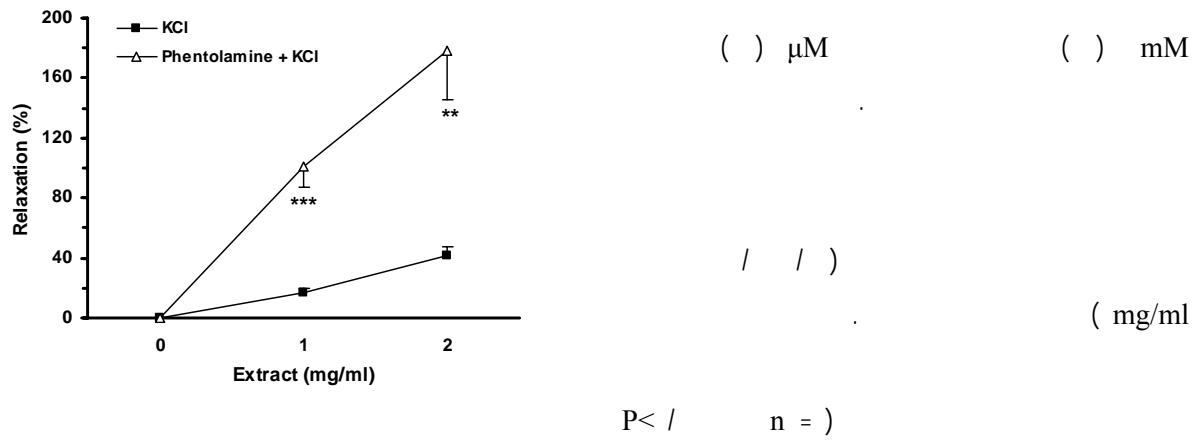
β α

(Labiatae) (*Teucrium polium*)

() () () () () ()

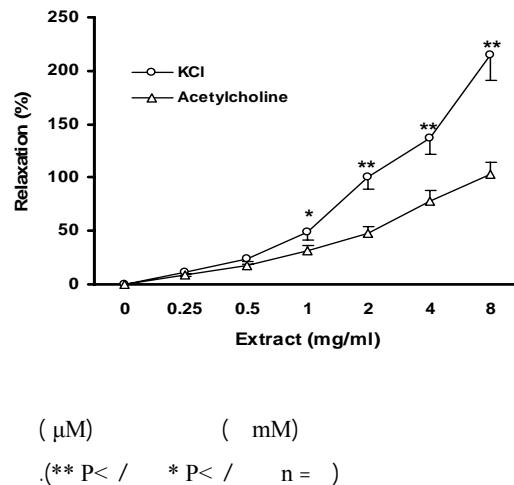
) . () ()
 / cm (()
 (ml)
 / pH °C ()
 NaCl() (mmol/l) ()
 MgCl₂(/) NaH₂PO₄(/) CaCl₂() KCl()
 .() (/) NaHCO₃(/) beta-pinene linalool guaiol cedrol
 (μM) (mM) ()
 Harvard Isotonic)
 Universal) (Transducer, UK
 . (Harvard Osillograph, UK ()
 ()
 / /) (mg/ml ()
 (mg/ml () ()
) () ()
 (β α ()
 L-NAME ()
 ()
 () ml
 () L-NAME ()
 () Novartis ()
) ()
 (RPM) ()
 (% ()
 / ml () Wistar
 % ()

(mg/ml) (% Contraction) (% Relaxation)
 (mM) (mean±SEM)
 () μM (α) ANOVA t-test
 () () / P
 () (n=)

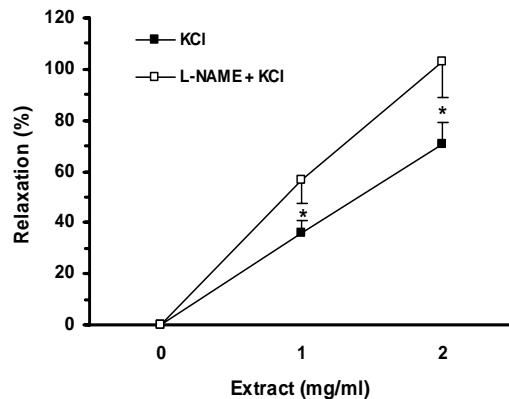


P< / n =) (ANOVA
 (mM) /) (/ mg/ml
 (*** P< / ** P< / n =)

()
 (mM) (mg/ml
 () (n=)
 (β) () μM



(μM) (mM)
 (** P< / * P< / n =)



($P < /$)

mg/ml

(NO)

()

NO

(mg/ml)

(mM)

) L-NAME

() μ M

L-NAME

()

(* $P < /$ n =)

(μ M) L-NAME

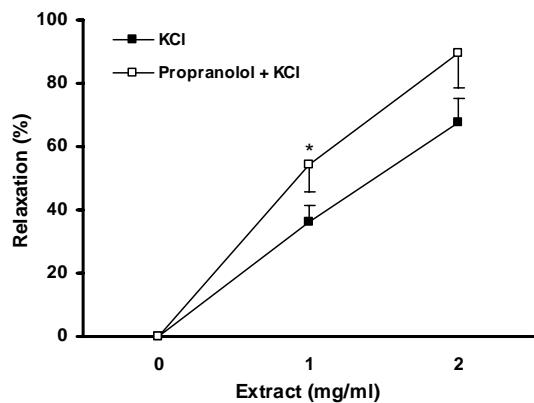
L-NAME

(n=)

($P < /$)

()

(mg/ml / /)
(n=) (mM)
() μ M ()
()

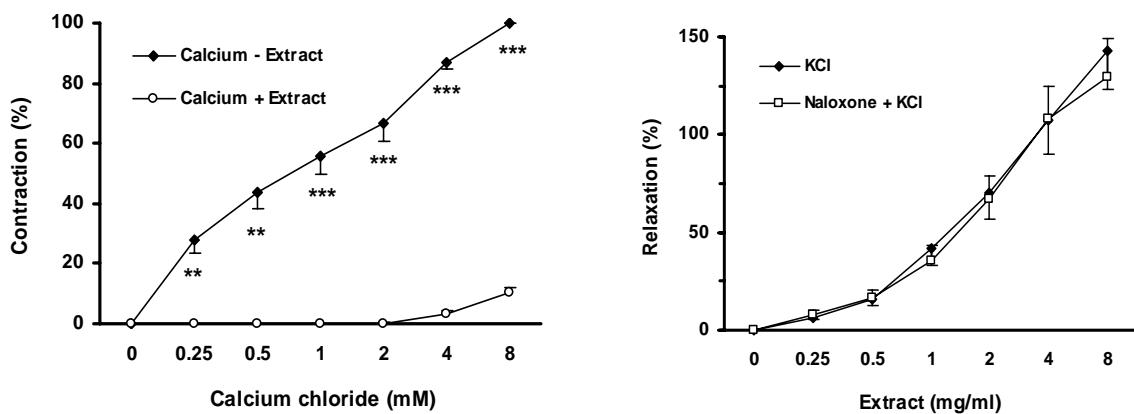


(mM)

(μ M)

(* $P < /$ n =)

mM
(mM / /)



mg/ml

(mM)

(mM)

.(*** P< /

** P< / n =)

.(n =)

(μM)

.()

.(P< / ANOVA n=)

()

(mg/ml)

()

(t-test)

L ()

P< /)

.(P< /

() (

%

(mM)

()

()

() M₃ M₂

(IP₃)

(β α)

)

(

receptor-operated calcium channel

$\beta_3 \quad \beta_2 \quad \beta_1$

() () () ()

() (mg/ml) (NO)

() cGMP NO (NO) L-NAME ()

NO L-NAME () ()

() () () ()

() () () ()

() () () ()

α_2 () ()

() () () ()

α_1 () () ()

() () () ()

α_2 () () ()

()
()

REFERENCES

2. Gharaibeh MN, Elayan HH, Salhab AS. Hypoglycemic effects of *Teucrium polium*. *J Ethnopharmacol* 1988; 24: 93-9.
3. Esmaeili MA, Yazdanparast R. Hypoglycaemic effect of *Teucrium polium*: Studies with rat pancreatic islets. *J Ethnopharmacol* 2004; 95(1): 27-30.
4. Rasekh HR, Khoshnood-Mansourkhani MJ, Kamalinejad M. Hypolipidemic effects of *Teucrium polium* in rats. *Fitoterapia* 2001; 72: 937-9.
5. Gharaibeh MN, Elayan HH Salhab AS. Anorexic effect of *Teucrium polium* in rats. *Int J Crude Drug Res* 1989; 27: 201-10.
6. Tariq M, Ageel A M, Al-Yahya MA. Anti-inflammatory activity of *Teucrium polium*. *Int J Tissue React* 1989; 11: 185-8.
7. Couladis M, Tzakou O, Verykokidou E. Screening of some Greek aromatic plants for antioxidant activity. *Phytother Res* 2003; 17: 194-5.
8. Autore G, Capasso F, De Fusco R. Antipyretic and antibacterial actions of *Teucrium polium* (L.). *Pharmacol Res Commun* 1984; 16: 21-9.
9. Abdollahi M, Karimpour H, Monsef-Esfehani HR. Antinociceptive effects of *Teucrium polium* L. total extract and essential oil in mouse writhing test. *Pharmacol Res* 2003; 48(1): 31-5.
10. Baluchnejadmojarad T, Roghani M, Roghani-Dehkordi F. Antinociceptive effect of *Teucrium polium* leaf extract in the diabetic rat formalin test. *J Ethnopharmacol* 2005; 97(2): 207-10.
11. Suleiman MS, Abdul-Ghani AS, Al-Khalil S. Effect of *Teucrium polium* boiled leaf extract on intestinal motility and blood pressure. *J Ethnopharmacol* 1988; 22: 111-6.
12. Hassan MM, Muhtadi FJ, Al-Badr AA. GLC-mass spectrometry of *Teucrium polium* oil. *J Pharm Sci* 1979; 68: 800-1.

13. Madeira SVF, Matos FJA, Leal-Cardoso JH. Relaxation effects of the essential oil of *Ocimum gratissimum* on isolated ileum of the guinea pig. *J Ethnopharmacol* 2002; 81: 1-4.
14. Ozacmak VH, Sayan H, Arslan SO. Protective effect of melatonin on contractile activity and oxidative injury induced by ischemia and reperfusion of rat ileum. *Life Sci* 2005; 76:1575-88.
15. Borrelli F, Capasso R, Pinto A. Inhibitory effect of ginger (*Zingiber officinale*) on rat ileal motility in vitro. *Life Sci* 2004; 74: 2889-96.
16. Storr M, Franck H, Saur D. Mechanism of alpha, beta-methylene ATP-induced inhibition in rat ileal smooth muscle: involvement of intracellular Ca^{2+} stores in purinergic inhibition. *Clin Exp Pharmacol Physiol* 2000; 27: 771-9.
17. Shah S, Hobbs A, Singh R. Gastrointestinal motility during pregnancy: role of nitrenergic component of NANC nerves. *Am J Physiol Regulatory Integrative Comp Physiol* 2000; 279: R1478-R85.
18. van der Vliet A, Rademaker B, Bast A. A beta adrenoceptor with atypical characteristics is involved in the relaxation of the rat small intestine. *J Pharmacol Exp Ther* 1990; 255: 218-26.
19. Ekblad E, Sundler F. Motor responses in rat ileum evoked by nitric oxide donors vs. field stimulation: modulation by pituitary adenylate cyclase-activating peptide, forskolin and guanylate cyclase inhibitors. *J Pharmacol Exp Ther* 1997; 283: 23-8.
20. Andersson A, Sundler F, Ekblad E. Expression and motor effects of secretin in small and large intestine of the rat. *Peptides* 2000; 21: 1687-94.
21. Laurence DR, Bennett PN. Clinical Pharmacology. UK: Churchill Livingstone; 1990: p. 317.
22. Gray AC, White PJ, Coupar IM. Characterisation of opioid receptors involved in modulating circular and longitudinal muscle contraction in the rat ileum. *Br J Pharmacol* 2005; 144: 687- 94.
(*Teucrium polium*)
24. El Bardai S, Hamaide MC, Lyoussi B. Marrubenol interacts with the phenylalkylamine binding site of the L-type calcium channel. *Eur J Pharmacol* 2004; 492: 269-72.
25. Nocerino E, Izzo AA, Borrelli F. Relaxant effect of capsazepine in the isolated rat ileum. *Naunyn Schmiedebergs Arch Pharmacol* 2002; 365: 187-92.
26. Gilani AH, Aziz N, Khurram IM. Bronchdilator, spasmolytic and calcium antagonist activities of *Nigella sativa* seeds (Kalonji): a traditional herbal product with multiple medicinal uses. *J Pak Med Assoc* 2001; 51: 115-20.
27. Goyal RK. Identification, localisation and classification of muscarinic receptor subtypes in the gut. *Life Sci* 1988; 43: 2209-20.
28. Eglen RM, Hedge SS, Watson N. Muscarinic receptor subtypes and smooth muscle function. *Pharmacol Rev* 1996; 48: 531-65.
29. Elorriaga M, Anselmi E, Hernandez JM. The source of Ca^{2+} for muscarinic receptor-induced contraction in rat ileum. *J Pharm Pharmacol* 1996; 48: 817-9.

-
30. Zhang WW, Li Y, Wang XQ. Effects of magnolol and honokiol derived from traditional Chinese herbal remedies on gastrointestinal movement. *World J Gastroenterol* 2005; 11(28): 4414-18.
 31. Liu LU, Coupar, IM. Involvement of alpha-2 adrenoceptors in the effects of moxonidine on intestinal motility and fluid transport. *J Pharmacol Exp Ther* 1997; 283:1367-74.
 32. Graham RM, Perez DM, Hwa J, Piascik MT. α_1 -adrenegic receptor subtypes, Molecular Structure, Function and Signaling. *Circ Res* 1996; 78: 737-749.
 33. Roberts SJ, Papaionnou M, Evans BA. Characterization of β -adrenoceptor mediated smooth muscle relaxation and detection on mRNA for β_1 - β_2 - and β_3 -adrenoceptors in rat ileum. *Br J Pharmacol* 1999; 127: 949-61.
 34. Shammas G. Flavonoid heterosides of *Teucrium polium* L. *Planta Medica Phytotherapia* 1987; 21: 144-8.
 35. Zhang WJ, Chen BT, Wang CY. Mechanism of quercetin as an antidiarrheal agent. *Di Yi Jun Yi Da Xue Xue Bao* 2003; 23: 1029-31