



## Erratum

*Br. J. Pharmacol.* (1996), 117, 967–973.

Toshihide Ikemura, Kyoko Okamura, Yasuo Sasaki, Hidee Ishii & Kenji Ohmori KW-4679-induced inhibition of tachykininergic contraction in the guinea-pig bronchi by pre-junctional inhibition of peripheral sensory nerves.

In the above paper several points were incorrectly published and the areas affected are reproduced in full below.

## KW-4679-induced inhibition of tachykininergic contraction in the guinea-pig bronchi by prejunctional inhibition of peripheral sensory nerves

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1 Sensory mechanisms play an important role in the vagal regulation of tracheobronchial smooth muscle tone. We examined the effect of KW-4679, an anti-allergic drug, on guinea-pig tachykinin-mediated contractile responses induced by electrical field stimulation (EFS) in guinea-pig bronchial muscles.

2 EFS (8 Hz, 0.5 ms, 15 V, for 15 s) evoked biphasic contractile responses in the guinea-pig isolated main bronchus in the presence of 5  $\mu$ M indomethacin. The contractions consisted of a fast phase of an atropine-sensitive transient contraction and a slow phase of a sustained contraction which was inhibited by a combination of the tachykinin NK<sub>1</sub> receptor antagonist, ( $\pm$ )-CP-96,345 (1  $\mu$ M) and the NK<sub>2</sub> receptor antagonist, SR 48968 (0.1  $\mu$ M).

3 KW-4679 preferentially inhibited the slow phase in a concentration-dependent manner by  $43.2 \pm 7.7\%$  at 10  $\mu$ M, whereas the drug had no effect on the fast phase at concentrations up to 10  $\mu$ M. KW-4679, at a concentration of 100  $\mu$ M, inhibited not only the slow phase by  $49.2 \pm 11.4\%$ , but also the fast phase by  $36.8 \pm 9.3\%$ .

4 KW-4679 (10  $\mu$ M and 100  $\mu$ M) did not affect the substance P-induced or neurokinin A-induced contraction. Against the acetylcholine-induced contractile responses, 100  $\mu$ M KW-4679 had a marked effect producing a 10.2 fold shift to the right in the curve.

5 The inhibitory effect of KW-4679 (10  $\mu$ M) on the slow phase contraction was not influenced by treatment with naloxone (100 nM), propranolol (1  $\mu$ M), thioperamide (1  $\mu$ M), saclofen (50  $\mu$ M), yohimbine (1  $\mu$ M), methiothepin (1  $\mu$ M) or methysergide (1  $\mu$ M).

6 The inhibitory effect of KW-4679 (10  $\mu$ M) on the slow phase contraction was not influenced by treatment with intermediate or large conductance Ca<sup>2+</sup>-activated K<sup>+</sup> channel blockers (charybdotoxin (10 nM) or iberiotoxin (10 nM)), but suppressed by treatment with small conductance Ca<sup>2+</sup>-activated K<sup>+</sup> channel blockers, apamin (500 nM) or scyllatoxin (300 nM). Apamin or scyllatoxin *per se* did not influence the slow phase contractions.

7 The results suggest that KW-4679 preferentially inhibits the release of tachykinins from the bronchial sensory nerves through activation of small conductance Ca<sup>2+</sup>-activated K<sup>+</sup> channels.

**Keywords:** KW-4679; electrical field stimulation; guinea-pig isolated bronchi; apamin; scyllatoxin; tachykinin; Ca<sup>2+</sup>-activated K<sup>+</sup> channels

**Figure 2** Effect of KW-4679 on EFS (0.5 ms, 8 Hz, 15 V for 15 s)-induced guinea-pig bronchial contractions for 20 min. Typical tracings of EFS-induced bronchial contractions in the presence of 10  $\mu$ M (a) or 100  $\mu$ M (b) KW-4679; (▲) indicates EFS. (c) Concentration-dependent inhibition of the EFS-induced bronchial contractions by KW-4679; (●) fast phase contractions (○) slow phase contractions. Values are shown as the mean  $\pm$  s.e. ( $n=4-12$ ). Significant differences from vehicle-treated group are indicated by: \* $P<0.05$ , \*\* $P<0.01$  (Student's *t* test).

**Figure 4** Effects of Ca<sup>2+</sup>-activated potassium channel blockers on the inhibitory action of KW-4679 on EFS-induced bronchial contractions. Four bronchial rings isolated from the same guinea-pig were used. Each preparation was incubated with vehicle, 10  $\mu$ M KW-4679, potassium channel blocker or a combination of both drugs. Charybdotoxin (ChTX, 10 nM) (a) or iberiotoxin (IbTX, 10 nM) (b) were incubated with preparations for 20 or 10 min, respectively. KW-4679 was incubated with preparations for 10 min. Open columns indicated the fast phase contractions induced by EFS and shaded columns indicate the slow phase contractions. Values shown are mean  $\pm$  s.e. ( $n=7$  or 5) (\* $P<0.05$ , \*\* $P<0.01$  vs. vehicle treated group;  $P>0.05$  between KW-4679-treated group and KW-4679-plus K<sup>+</sup> channel blockers-treated group, Tukey's test).