as an agonist at nicotinic receptors. The results provide a further indication as to the structural requirements for choline analogues being acetylated by choline acetyltransferase and for possibly acting as false cholinergic neurotransmitters.

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Is WB 4093 a selective presynaptic α_2-adrenoceptor antagonist?

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Kapur & Mottram (1978) have reported that WB 4093 is at least 1000 times more potent at blocking the stimulant effects of clonidine at presynaptic α_2-adrenoceptors than noradrenaline at postsynaptic α_1-adrenoceptors in the rat isolated vas deferens. If this is true WB 4093 would be a most valuable tool in the characterization of α-adrenoceptors, and so its potency at blocking α-adrenoceptors in other tissues has been investigated.

The pA_2 for WB 4093 was determined against noradrenaline at the post-synaptic α_1-andrenoceptors in the rabbit aorta (Apperley, Humphrey & Levy, 1976) after inhibition of uptakes$_1$ and $_2$ (cocaine, 10 μg/ml; cortiscosterone 10 μg/ml) and blockade of β-adrenoceptors (propranolol 0.3 μg/ml), and against clonidine at presynaptic α_2-adrenoceptors in the guinea-pig ileum (Drew, 1978). The mean (and 95% confidence limits) pA_2 values at α_1- and α_2-adrenoceptors were 6.97 (6.59–7.35: slope = 1.02; 0.64–1.40: $n = 4$) and 7.25 (7.02–7.48; slope = 1.20; 1.05–1.35: $n = 6$) respectively.

The effects of WB 4093 on postsynaptic α_1- and presynaptic α_2-adrenoceptors were also investigated in pithed rats (Drew, 1976). WB 4093, 1, 3 and 10 mg/kg caused a 4, 10 and 29 fold shift to the right in the phenylephrine dose-vasopressor response curve ($n = 4$); the dose-response curve to noradrenaline was shifted 2, 3 and 5 fold ($n = 5$). The clonidine dose-vasopressor response curve was shifted 4 and 28 fold to the right after pretreatment with 1 mg/kg ($n = 4$) and 10 mg/kg ($n = 5$) respectively of WB 4093. However, the presynaptic inhibitory effect of clonidine on the tachycardia produced by continuous stimulation of the cardiac sympathetic nerves at 1 Hz was little affected by either dose of WB 4093.

Thus *in vitro* WB 4093 shows no selectivity for α_1- or α_2-adrenoceptors; *in vivo* it is only weakly active at blocking α_1-adrenoceptors and almost inactive at blocking α_2-adrenoceptors. The reason for the difference between these results and those of Kapur & Mottram (1978) is unknown but it seems unlikely that WB 4093 will be useful in the characterisation of α-adrenoceptors.

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