

Fig. 1 illustrates the antagonism of histamine-inhibition by burimamide. Repeatable maximal inhibitions of tetanic spasms were obtained at A and B with histamine,  $10^{-7}$  g/ml, administered for 3 min; at C, the degree of inhibition was no greater with  $10^{-6}$  g/ml, but this comparatively large dose of histamine partially overcame the mepyramine block and produced a slight contraction concurrently with the inhibition. After the introduction of burimamide,  $10^{-7}$  g/ml, the inhibitory effect of histamine,  $10^{-7}$  g/ml, was totally blocked at D (within 4 min); and that of histamine,  $10^{-6}$  g/ml, was greatly reduced, at E. The burimamide effect was reversible but persisted for at least 1 h after its removal.

The inhibitory effect of histamine could not be obtained with 4-methyl histamine,  $1-500 \times 10^{-7}$  g/ml, suggesting that the receptors mediating histamine-inhibition resemble  $H_2$ -receptors in their susceptibility to burimamide blockade but differ in being insensitive to 4-methyl histamine.

The atropine-resistant tetanic spasms are also known to be inhibited by 5-hydroxy-tryptamine, even in the presence of methysergide (Ambache, Verney & Zar, 1970); unlike histamine-inhibitions, the inhibitions induced by 5-HT were unaffected by burimamide.

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#### The cardiovascular actions of prostaglandins $C_1$ and $C_2$ in the cat (T)

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#### Vascular histamine receptors in the rabbit (T)

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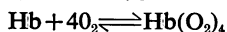
### DEMONSTRATIONS

#### A 'working' model of the haemoglobin molecule as a receptor for 2,3-diphosphoglycerate

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Haemoglobin combines reversibly with oxygen:



and exhibits a characteristic sigmoidal dissociation curve (A, Fig. 1), which differs from the monotonic curve predicted by simple chemical theory, B (Douglas, Haldane & Haldane, 1912). The shape of curve A allows haemoglobin, fully saturated with oxygen, to deliver some 25% of its oxygen to a tissue at a partial pressure of 40 mm/Hg. Moreover, there is still a large reserve of oxygen bound to haemoglobin, which can be released if the partial pressure falls lower.