

The 1,2,3-benzothiadiazoles. A new type of compound acting on coupling site i, in rat liver mitochondria

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1. In rat liver mitochondria, 6-chloro-1,2,3-benzothiadiazole inhibited ADP phosphorylation and Ca^{2+} -transport when the energy required for these processes came from the oxidation of NAD-linked substrates. The inhibition was characterized by substantial reduction in oxygen consumption, H^{+} -movement and disappearance of acceptor control ratio. 2. When the substrate oxidized was succinate, depending on the 6-chloro-1,2,3-benzothiadiazole concn., little or no effect was observed on ADP phosphorylation and Ca^{2+} -transport. 3. The results suggest that 6-chloro-1,2,3-benzothiadiazole can block site I at low concn., but at higher concn. can affect site I and site II, although site I is always more affected. © 1980 Informa UK Ltd All rights reserved: reproduction in whole or part not permitted.