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THE EFFECT OF 2-AMINOETHOXYDIPHENYL BORATE ON STORE-DEPENDENT Ca^{2+} ENTRY IN PERITONEAL MACROPHAGES

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Store-dependent Ca^{2+} -entry is a universal mechanism of regulated Ca^{2+} entry in eucariotic cells. To elucidate the pharmacological characteristics of store-dependent Ca^{2+} entry in macrophages, the effect of 2-aminoethoxydiphenyl borate (2-APB) on store-dependent Ca^{2+} entry, induced by endoplasmic Ca^{2+} -ATPases inhibitors thapsigargin

and cyclopiazonic acid as well as disulfide-containing immunomodulators glutoxim and molixan, was investigated in rat peritoneal macrophages. Using Fura-2AM microfluorimetry we have shown that in rat peritoneal macrophages, as well as in other cell types, 2-APB modulates store-dependent Ca^{2+} entry in a dose-dependent manner. At concentration of 25 μM 2-APB potentiates Ca^{2+} entry, while at concentrations of 50 and 100 μM it effectively inhibits store-dependent Ca^{2+} entry in macrophages. The results additionally confirm that Ca^{2+} entry induced by glutoxim or molixan occurs via store-dependent mechanism.

Keywords: 2-aminoethoxydiphenyl borate, peritoneal macrophages, store-dependent Ca^{2+} entry