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PYRAZOLE DERIVATIVE ATTENUATES STORE-DEPENDENT Ca^{2+} ENTRY IN RAT PERITONEAL MACROPHAGES

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Store-dependent Ca^{2+} entry is the ubiquitous mechanism of regulated Ca^{2+} entry in eucaryotic cells, activated upon depletion of intracellular Ca^{2+}-stores; participates in regulation of a wide range of cellular processes. To elucidate the pharmacological characteristics of store-dependent Ca^{2+} entry in macrophages, the effect of the pyrazole deri-vative compound YM-58483 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 for the first time that in rat peritoneal macrophages, as well as in other cell types, pyrazole derivative YM-58483 effectively inhibits store-dependent Ca^{2+} entry and is a useful pharmacological tool for studying store-dependent Ca^{2+} entry in macrophages The results additionally confirm that Ca^{2+} entry induced by glutoxim or molixan occurs via store-dependent me-chanism.

Keywords: pyrazole derivative compound YM-58483, peritoneal macrophages, store-dependent Ca^{2+} entry