

Therapeutic effects of trehalose liposomes against carcinoma *in vitro* and *in vivo*

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Trehalose liposomes (DMTre) composed of L- α -dimyristoylphosphatidylcholine (DMPC) and trehalose surfactants have been produced. Inhibitory effects of DMTre on the growth of various tumor cells along with apoptosis were obtained *in vitro*. The apoptotic signal passed through mitochondria, caspase-9 and 3, first, secondly through caspase-8 and 3 after fusion and accumulation of DMTre into tumor cell membrane along with increase in membrane fluidity. Furthermore, therapeutic effects of DMTre against xenograft mouse models of carcinoma were obtained *in vivo* leading to apoptosis. No side effects of DMTre were recognized in mice on the basis of biochemical and hematological tests.