

Lipid exchange in mitochondrial cytochrome *c* release: pro-apoptotic effect of maize lipid transfer protein

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Membrane lipids and protein-lipid interactions are attracting increasing interest in the field of cell death and apoptosis. Some pro-apoptotic proteins, like Bid, appear to have an intrinsic capacity of binding and exchange lipids but it is still unclear whether this function could be relevant for apoptotic signalling cascade.

We have studied the ability of a plant lipid transfer protein, not related to animal apoptotic cascade, to induce cytochrome *c* release from mammalian mitochondria. Non-specific lipid transfer proteins (nsLTPs) are ubiquitous plant proteins that have been shown to bind, in vitro, various amphiphilic molecules including lysolipids and glycolipids and to facilitate in vitro transfer of phospholipids between membranes.

The results showed that, in the presence of specific lipid molecules (i.e. lysolipids), ns-LTP from maize is able to induce cytochrome *c* release from the intermembrane space of mouse liver mitochondria. These data are discussed with respect to the role played by lipids and lipid binding in apoptosis.

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