

Transmembrane interactions of Bcl-2 proteins

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Interactions among pro- and anti-apoptotic members of the Bcl-2 (B-cell lymphoma 2) protein family modulate the permeabilization of the outer mitochondrial membrane (MOMP) and thus control commitment of cells to apoptosis. Deregulation of this interaction network generates an imbalance between cell death and survival and contributes to the pathophysiology of several diseases such as neurodegenerative disorders and cancer.

Almost all the members of the Bcl-2 protein family have a C-terminal transmembrane domain that has been traditionally considered a mere membrane anchor. The interactions of transmembrane domains and their contribution to protein function are poorly understood. Here, we demonstrate, in biological membranes, that interactions between the transmembrane domains of Bax and anti-apoptotic Bcl-2 proteins represent a previously unappreciated level of apoptosis regulation.