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Bcl-3 gene is involved in T cell survival

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Apoptotic death of lymphocytes is a critical process in limiting the extent and duration of immune responses but little is known about the mechanisms by which this occurs. In the May *Nature Immunology*, Thomas Mitchell and colleagues from the *National Jewish Medical and Research Center*, Denver show that adjuvants may improve survival of activated T cells via induction of the Bcl-3 gene.

Mitchell *et al* used a microarray to compare gene expression in T cells activated either with antigen alone or antigen in the presence of two different adjuvants (VV or LPS). Both adjuvants increased Bcl-3 expression. Retroviral infection experiments showed that expression of Bcl-3 increased survival of activated T cells *in vitro* and *in vivo* (*Nat Immunol* 2001, 2:397-402).

Bcl-3 is a member of the I κ B subfamily of inhibitors. This subfamily is part of the NF- κ B transcription factor protein family and it is suggested that a balance in the concentration of various NF- κ B family members regulates apoptosis and survival of activated T cells.

References

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