

**Publication****Apoptosis of CD4+ T and natural killer cells in Alzheimer's disease****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 107171**Author(s)** Schindowski, K; Peters, J; Gorriz, C; Schramm, U; Weinandi, T; Leutner, S; Maurer, K; Frölich, L; Müller, W E; Eckert, A**Author(s) at UniBasel** [Eckert, Anne](#) ;**Year** 2006**Title** Apoptosis of CD4+ T and natural killer cells in Alzheimer's disease**Journal** Pharmacopsychiatry**Volume** 39**Number** 6**Pages / Article-Number** 220-8

BACKGROUND: Immunotherapy appears to be a potent treatment against Alzheimer's disease (AD), but the mechanisms underlying neural-immune interaction are still not known. METHODS: Here, we determined cell death and distribution of lymphocyte subsets of peripheral blood mononuclear cells (PBMC) in AD and aging, e.g. T (CD4+ CD3+, CD8+ CD3+), B (CD19+) and NK (CD16++CD56+) cells. RESULTS: Increased apoptosis was found in CD4+ T and NK cells in AD, while in aging all subsets were affected. The expression of anti-apoptotic Bcl2 correlated with observed cell death in T-helper and B cells irrespective of dementia. The levels of Bcl2 in T-cells were significantly increased in mild AD. Apoptosis and Bcl2 levels were also elevated in the APP (751SL)xPS1 (M146L) transgenic mouse model. CONCLUSION: The mechanisms triggering apoptosis and activation of lymphocytes in AD appear therefore to be different than those in immunosenescence and possibly bear an important biomarker to monitor immunotherapy in AD.

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