

## **Identification of MHC class II restricted epitopes in the tumor associated antigen BclX(L)**

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### **Introduction:**

The Bcl-2 family comprise several well characterized tumor associated antigens (i.e. Bcl-2, Bcl-X(L) and Mcl-1). Spontaneous CD8<sup>+</sup> T-cell responses against these proteins have been identified as frequent features in cancer patients. To address the potency of these proteins as vaccination targets clinical trials in patients suffering from multiple myeloma are currently set to begin in the spring of 2009 at University Hospital Herlev. In an effort to enhance the vaccines we would like to include MHC class II epitopes in future clinical trials. We therefore aim at characterizing MHC class II restricted peptides in the anti-apoptotic protein Bcl-X(L).

### **Materials and methods:**

20-23 amino acid overlapping peptides spanning the Bcl-X(L) protein were synthesized. Melanoma patient PBL were cultured for 7 days with autologous dendritic cells (DC) pulsed with the different peptides and screened for release of interferon- $\gamma$  in Elispot assays.

### **Results:**

8 out of 8 patients exhibit responses against at least one of the 7 peptides that are included in the study. Responses were not detectable in direct Elispot assays without the prestimulation with peptide pulsed DC.

### **Discussion:**

Various class II epitopes from the Bcl-2 family protein Bcl-X(L) were identified and were shown to elicit spontaneous immune responses in cancer patients suffering from malignant melanoma. After further validation the best candidate peptides will be included in future Bcl-X(L)-based clinical vaccination trials at University Hospital Herlev.