

Poster presentation

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## The Tübingen approach: identification, selection and validation of tumor-associated HLA peptides for cancer therapy

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There is a substantial need for molecularly defined tumor antigens to prime cytotoxic T cells *in vivo* for cancer immunotherapy, especially in the case of tumor entities for which only few tumor antigens have been defined so far. Here, we present the "Tübingen approach" to identify, select and validate large numbers of HLA class I-associated peptides derived from tumor-associated antigens. Step 1 is the identification of naturally presented HLA-associated peptides directly from primary tumor cells. Step 2 is selection of tumor-associated peptides from step 1 by differential gene expression analysis and data mining. Step 3 is validation of selected candidates by monitoring *in vivo* T-cell responses. Our approach combines methods from genomics, proteomics, bioinformatics and T-cell immunology. The aim is to develop effective immunotherapeutics consisting of multiple tumor-associated epitopes in order to induce a broad and specific immune response against cancer cells.

Immatics biotechnologies, a privately owned spin-off from the University of Tübingen, is dedicated to the development of immunotherapeutics based on several approaches, of which one is presented here. In February 2004, the company received substantial private funding in its first financing round to start operations. <http://www.immatics.com>