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(54) **Title**: METHOD FOR DIFFERENTIALLY QUANTIFYING NATURALLY PROCESSED HLA-RESTRICTED PEPTIDES FOR CANCER, AUTOIMMUNE AND INFECTIOUS DISEASES IMMUNOTHERAPY DEVELOPMENT

(57) **Abstract**: The invention relates to a method for quantitatively identifying relevant HLA-bound peptide antigens from primary tissue specimens on a large scale without labeling approaches. This method can not only be used for the development of peptide vaccines, but is also highly valuable for a molecularly defined immunomonitoring and the identification of new antigens for any immunotherapeutic strategy in which HLA-restricted antigenic determinants function as targets, such as a variety of subunit vaccines or adoptive T-cell transfer approaches in cancer, or infectious and autoimmune diseases.