

《过敏性疾病的多学科解决途径》

图书基本信息

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内容概要

《过敏性疾病的多学科解决途径(英文版)》内容简介：Allergy is an immunological disease caused by multiple factors and characterized by variability, specificity and complexity. Multidisciplinary Approaches to Allergies covers diverse aspects ranging from basic molecular mechanisms to societal issues within the framework of multidisciplinary approaches to allergies. It contains 29 chapters in 6 parts: General Allergy; Allergenic Sources and Allergens; Diagnosis; Therapies and Pharmacy; Hypoallergenic Products; Environment, Hygiene and Societal Issues. It can be used in education and research as introductory and supplementary material. It is also an indispensable tool for scientists and doctors who are searching for an integrated way for allergy prevention, treatment and management.

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章节摘录

版权页：插图：7.3.3 T - Cell Epitope Mapping Using the ELISPOT Approach The ELISPOT assay is widely used to detect antigen - specific immune responses to target antigens. This method is especially useful to measure both clonal size and effector function of low - frequency antigen - specific T - cell populations directly *ex vivo* (Wulf et al. , 2009) and is based on the principle that memory CD4+ T - cells secrete effector cytokines upon contact with the antigen. PBMCs are treated with the peptide , followed by cytokine assessment after stimulation during 24 h (Anthony and Lehmann , 2003) . This assay is a kind of intracellular cytokine staining assay , which is categorized into a fast and high resolution approach at single cell level. Compared with other assays , it is one or two orders of magnitude more sensitive than the flow cytometry - based techniques , and it is one of the few immune monitoring assays that can be performed with cryopreserved PBMC samples without significant loss of activity. The disadvantages of this technique are the subjectivity due to manual reading of the plates , and the need for cell separation to discriminate between antigen - specific responses derived from CD4+ T - cells and CD8+ T - cells. Now , several additional reasons also have contributed to the main - stream use of the ELISPOT assay. The IFN - γ ELISPOT assay and IL - 4 ELISPOT have successfully been used to map T - cell epitopes. For example , by using this technique , antagonists and non - toxic variants of wheat gliadin T - cell epitopes were investigated (Anderson et al. , 2006) .

7.3.4 Other Assays Due to biotechnological applications in immunology , several new approaches have been developed for T - cell mapping. T - cell epitope mapping using transgenic mice expressing HLA is a good example of such application. In this assay , the draining lymph nodes of immunized HLA transgenic mice provide a more abundant source of allergen - specific CD4+ T - cell to map T - cell epitopes , than the PBMCs of atopic patients (Malherbe , 2009) . Other novel techniques involve (1) T - cell mapping by cytokine gene expression (Provenzano and Spagnoli , 2009) , and (2) T - cell mapping by TAD (antigen and epitope discovery) , which is on the basis of taking the advantage of paramagnetic beads to augment an antigen presentation (Valentino and Frelinger , 2009) . Although these new methods have not been found in food allergen epitope mapping yet , their potential for applications are promising.

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