Basics of Immunology Part 2

This learning journey is designed to introduce cells of the immune system such as T lymphocytes, Natural Killer cells, Dendritic cells, B lymphocytes, and chemokines. Disorders of the immune system such as hypersensitivity reactions are also discussed in this journey.

The thymus and self-non-self discrimination

Thymus and T Cell Development A Primer

Prof. Georg A. Holländer University of Oxford, UK ETH Zürich, Switzerland University of Basel, Switzerland Extract from:

'The thymus and T cell development: a primer'

Prof. Georg Holländer – University of Oxford, UK 5 mins

02

01

T cell development

Thymus and T Cell Development A Primer

Prof. Georg A. Holländer University of Oxford, UK ETH Zürich, Switzerland University of Basel, Switzerland

Extract from: **'The thymus and T cell development: a** primer' Prof. Georg Holländer – University of Oxford, LII

Prof. Georg Holländer – University of Oxford, UK 3 mins



T cell subsets (CD4 and CD8), activation and response

Tissue Resident Memory T Cells (T_{RM})



Extract from: **'Tissue resident memory T cells (TRM)'** Dr. Marc Veldhoen – University of Lisbon, Portugal 3 mins

What are T follicular helper cells?

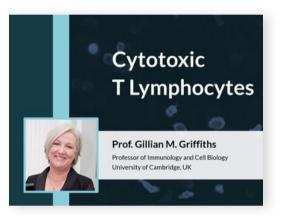
Tfh and Tfr cells



Extract from: **'Tfh and Tfr cells'** Prof. Luis Graca – University of Lisbon, Portugal *6 mins*

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Cytotoxic T lymphocytes and their microenvironment



Extract from: **'Cytotoxic T lymphocytes'** Prof. Gillian Griffiths – University of Cambridge, UK 5 mins



Understanding the Natural Killer Cells





Extract from: **'Natural killer cells'** Dr. Philippa Kennedy – University of Minnesota, USA 5 mins



What are $\gamma \delta T$ cells?





Prof. Bruno Silva-Santos Professor of Immunology Institute of Molecular Medicine Faculty of Medicine University of Lisbon, Portugal Extract from: **'Gamma delta T-cells'** Prof. Bruno Silva-Santos – University of Lisbon, Portugal <u>5 mins</u>

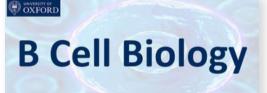
Dendritic cells: nature's adjuvant



Extract from: 'Dendritic cells: professional antigen presenting cells'

Prof. Paul J. Fairchild – University of Oxford, UK 5 mins

B cell function and receptor

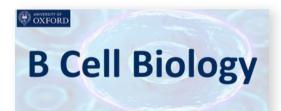




Extract from: **'B cell biology'** Prof. Richard Cornall – University of Oxford, UK 5 mins

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B cell development





Prof. Richard Cornall Nuffield Professor of Clinical Medicine & Head of Department Nuffield Department of Clinical Medicine University of Oxford, UK Extract from: **'B cell biology'** Prof. Richard Cornall – University of Oxford, UK 5 mins

Chemokines and chemotaxis

Chemokines



Dr. James E. Pease Reader in Leukocyte Biology National Heart & Lung Institute Imperial College London, UK

Extract from: **'Chemokines'** Dr. James E. Pease – Imperial College London, UK *cmins*

4 mins

Type I hypersensitivity

Hypersensitivity Diseases: Type 1 Hypersensitivity

Extract from: 'Hypersensitivity diseases: type 1 hypersensitivity'

Prof. Herman Waldmann – University of Oxford, UK 5 mins

13

Type II hypersensitivity



Extract from: 'Hypersensitivity diseases: type II-IV hypersensitivity'

Prof. Sara Marshall – Wellcome Trust, UK 4 mins

Type III hypersensitivity



Prof. Sara Marshall Honorary Professor of Clinical Immunology, University of Dundee Head of Clinical and Physiological Sciences, Wellcome Trust, UK Extract from:

'Hypersensitivity diseases: type II-IV hypersensitivity' Prof. Sara Marshall – Wellcome Trust, UK

7 mins



Type IV hypersensitivity



Extract from: 'Hypersensitivity diseases: type II-IV hypersensitivity'

Prof. Sara Marshall – Wellcome Trust, UK 3 mins