

# Antibodies: Structure, Engineering, and Therapeutics

This learning journey is designed to provide an introduction to the structural composition of immunoglobulins, antibody engineering methods, and their therapeutic applications. Several key antibody concepts are covered including classification, discovery, clinical relevance, and immunogenicity.

## An Introduction to Antibodies and their Structure



Extract from: **'Antibody structure and function: antibody structure'**  
Dr. Mike Clark – University of Cambridge, UK

10 mins (00:24 - 10:59)

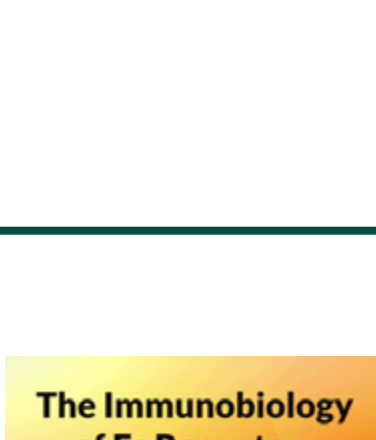
## Antibody Classes and Subclasses



Extract from: **'Antibody structure and function: antibody structure'**  
Dr. Mike Clark – University of Cambridge, UK

12 mins (19:17 - 31:30)

## Antibody Valency and Function



Extract from: **'Antibody structure and function: antibody structure'**  
Dr. Mike Clark – University of Cambridge, UK

11 mins (00:42 - 18:28)

## The Role and Structure of Antibody Receptors (FcRs)



Extract from: **'The immunobiology of Fc receptors'**  
Prof. Mark Cragg – University of Southampton, UK

3 mins (00:28 - 04:00)

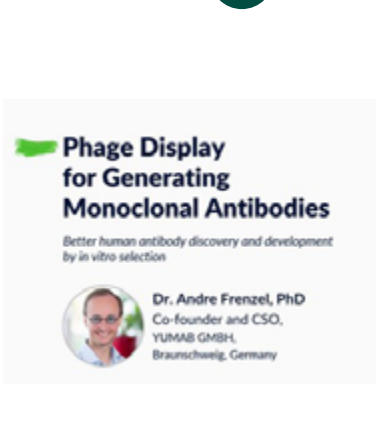
## An Introduction to Antibody Engineering



Extract from: **'Antibody engineering: beginnings to bispecifics and beyond'**  
Dr. Ian Wilkinson – Absolute Antibody, UK

8 mins (06:12 - 14:49)

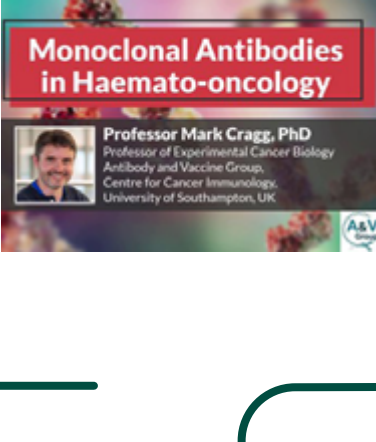
## Genetic Engineering of Antibodies



Extract from: **'Therapeutic antibodies'**  
Dr. Geoffrey Hale – Chief Executive Officer of mAbsolve Ltd., UK

9 mins (10:20 - 20:00)

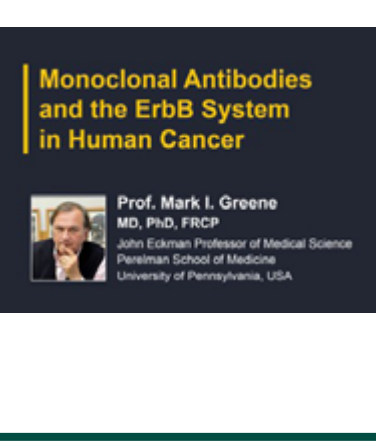
## Antibody Phage Display



Extract from: **'Phage display for generating monoclonal antibodies'**  
Dr. Andre Frenzel – YUMAB GMBH, Germany

5 mins (12:26 - 18:20)

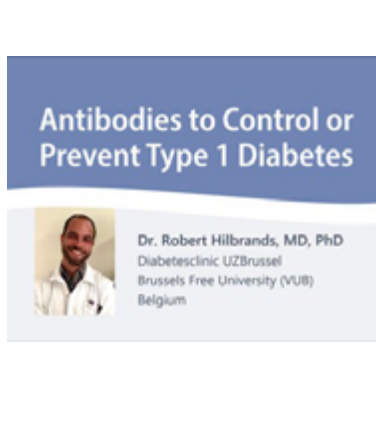
## The use of Antibodies for Cancer Treatment



Extract from: **'Monoclonal antibodies in haemato-oncology'**  
Prof. Mark Cragg – University of Southampton, UK

9 mins (01:42 - 11:14)

## Antibodies for the Treatment of Cancer: Herceptin



Extract from: **'Monoclonal antibodies and the ErbB system in human cancer'**  
Prof. Mark Greene – University of Pennsylvania, USA

3 mins (36:06 - 39:18)

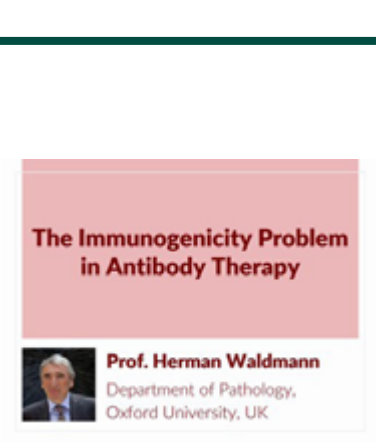
## Monoclonal Antibodies for the Treatment of Type-1 Diabetes



Extract from: **'Antibodies to control or prevent type 1 diabetes'**  
Dr. Robert Hilbrands – Brussels Free University, Belgium

8 mins (12:02 - 20:34)

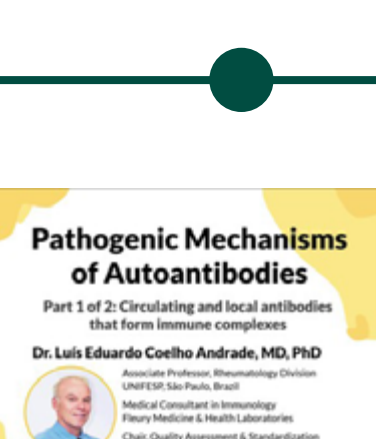
## Antibodies for Transplant Tolerance



Extract from: **'Tolerance induction to clotting factors with monoclonal antibodies'**  
Prof. Luis Graca – University of Lisbon, Portugal

4 mins (03:16 - 08:05)

## Antibody Therapy Immunogenicity



Extract from: **'The immunogenicity problem in antibody therapy'**  
Prof. Herman Waldmann – University of Oxford, UK

10 mins (00:45 - 11:00)

## Autoantibodies and Autoimmune Diseases



Extract from: **'Pathogenic mechanisms of autoantibodies: circulating and local antibodies that form immune complexes'**  
Dr. Luis Eduardo Coelho Andrade – UNIFESP, São Paulo, Brazil

4 mins (02:39 - 07:00)

## Can Humanised Antibodies Reduce Immunogenicity?



Whole talk: **'Therapeutic antibodies'**  
Dr. Geoffrey Hale – Chief Executive Officer of mAbsolve Ltd., UK

4 mins (21:04 - 26:39)