

236C41 Immunotechnology Summary

Course Units

Unit 1: To Gain Hands-On Knowledge To Identify Blood Group

- Identification of blood group and typing.
- Coomb's test.
- TPHA

Unit 2: To Acquire Adequate Skill To Perform Latex Agglutination

- T cell identification (Demonstration) Latex Agglutination reactions- RF, ASO, CRP

Unit 3: To Analyze Precipitation Reactions In Gels

- Ouchterlony's Double Diffusion Method (antigen pattern).
- Single Radial Immuno Diffusion Method.

Unit 4: To Investigate The Antigen & Antibody Reactions

- Electrophoresis - Serum, Counter and Immunoelectrophoresis.

Unit 5: To Familiarize With Separation Of Lymphocytes

- Separation of Lymphocytes by density gradient centrifugation method.
- ELISA: Hepatitis/ HIV

Course Outcomes

CO1: Assess the blood groups and types

CO2: Competently perform serological diagnostic tests such as RF, ASO, CRP

CO3: Illustrate the antigen antibody reactions in gel.

CO4: Compare & contrast antigens and antibodies in electrophoresis

CO5: Examine the concept of ELISA.

Text Books

1. Talwar. (2006). Hand Book of Practical and Clinical Immunology, Vol. I, 2nd edition, CBS.
2. Asim Kumar Roy. (2019).

3. Richard Coico, Geoffrey Sunshine, Eli Benjamini. (2003). Immunology – A Short Course. 5th Edition., Wiley-Blackwell, New York.
4. Judith A. Owen, Jenni Punt, Sharon A. Stranford, Janis Kuby. (2013). Immunology, 7th Edition., W. H. Freeman and Company, New York.
5. Pravash Sen. Gupta. (2003). Clinical Immunology. Oxford University Press.

Reference Books

1. Frank C. Hay, Olwyn M. R. Westwood. (2008). Practical Immunology, 4th Edition, Wiley- Blackwell.
2. Wilmore Webley. (2016). Immunology Lab Manual, LAD Custom Publishing.
3. Rose. (1992). Manual of Clinical Lab Immunology, ASM.
4. Janeway Travers. (1997). Immunobiology- the immune system in health and disease. Current Biology Ltd. London, New York. 3rd Edition.
5. Peter J. Delves, Seamus Martin, Dennis R. Burton, Ivan M. Roitt. (2006). Roitt's Essential Immunology, 11th Edition., Wiley-Blackwell.

Web Resources

1. https://www.researchgate.net/publication/275045725_Practical_Immunology-_A_Laboratory_Manual
2. <https://www.urmc.rochester.edu/MediaLibraries/URMCMedia/labs/frelinger-lab/documents/Immunology-Lab-Manual.pdf>
3. https://webstor.srmist.edu.in/web_assets/downloads/2021/18BTC106J-lab-manual.pdf
4. Immunology Overview - Medical Microbiology - NCBI Bookshelf (nih.gov)
5. Immunology - an overview | ScienceDirect Topics