



Laboratory methods for detection and identification of antinuclear antibodies (ANA's) are rapidly evolving. Automation is becoming widely available. This educational program is intended to provide a comprehensive review of the methods, interpretation, and clinical significance of ANA testing. The material presented will emphasize techniques and interpretation and will be of practical use to laboratory technologists, pathologists, clinicians, and rheumatologists. The academic level of the material will be intermediate to advanced, however, those who are new to the field or unfamiliar with newer methods will benefit from the discussions of methods and new technology.

AUTOIMMUNE SEMINAR

I. Introduction:

- A. Introduction to Autoimmunity
- B. Introduction to the Systemic Rheumatic diseases learning objectives
- C. Overview of what will be discussed

II. Principles and Mechanisms of Testing

- A. Indirect vs direct testing
- B. The conjugate sandwich
- C. Fundamentals and mechanisms for IFA testing
- D. Fundamentals and mechanisms of ELISA testing
- E. Fundamentals and mechanisms of Multiplex/Bead Based Assays
- F. Advantages and disadvantages of each system
- G. Automation in the laboratory

III. ANA Testing on HEp-2 Derived Substrates

- A. What is an ANA?
- B. Why is HEp-2 IFA the Gold Standard?
- C. What is an ANA pattern?
- D. How to interpret an ANA pattern
- E. Why we must titer samples
- F. ICAP and AC numbers
- G. Competent-level patterns and disease associations
- H. Expert-level patterns and disease associations
- I. Mixed patterns and titering
- J. Prozone effect
- K. Suggested follow-up testing

IV. DNA testing on Crthidia lucilae substrate

- A. What does Crthidia lucilae detect?
- B. Finding the Kinetoplast
- C. Determining positivity
- D. Challenging results

V. ANCA Testing

- A. What does ANCA detect?
- B. Ethanol vs Formalin
- C. ANA interference
- D. Atypical with a Capital A
- E. A suggested workflow
- F. Interpretation/Result matrix

VI. Rodent Tissue Testing

- A. Why can we use animal cells?
- B. Fundamentals testing tissues, vs testing cells
- C. What does Rodent Tissue detect?
- D. Rodent Tissue patterns (Liver, Kidney, Stomach)
- E. Challenges Heterophile staining

VII. Primate EMA Testing

- A. What does Primate Tissue detect
- B. Esophagus layers
- C. Primate Tissue patterns

VIII. Troubleshooting

- A. IFA
 - 1. Microscopes
 - 2. Equivalence between readers
 - 3. Common testing errors
 - 4. Intensity does not equal positivity!
- B. ELISA
 - 1. Inverse relationship of calibrators and results
 - 2. Single Point vs Curve Calibration
 - 3. Temperature
- C. Troubleshooting Pipette Automation
 - 1. Probe carryover
 - 2. Reagent contamination
 - 3. Crashes

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Immuno Concepts is approved as a provider of continuing educational programs in the clinical laboratory sciences through the ASCLS PACE program.

This program is approved for 4 PACE/CEU hours.

