

# International Clinical Laboratories

# *Test Review*



## **HEp-2000 Colorzyme ANA-Ro Test**

The propensity for the immune system to work against its own body is referred to as autoimmunity. Autoimmune diseases are conditions in which there is a disorder of the immune system characterized by the abnormal production of antibodies (auto-antibodies) directed against the tissues of the body. Autoimmune diseases typically feature inflammation of various tissues of the body. Antinuclear antibodies (ANAs) are unusual antibodies, detectable in the blood, that have the capability of binding to certain structures within the nucleus of the cells. ANAs are found in patients with a number of different autoimmune diseases, such as systemic lupus erythematosus, Sjogren's syndrome, rheumatoid arthritis, polymyositis, scleroderma, Hashimoto's thyroiditis, juvenile diabetes mellitus, Addison disease, vitiligo, pernicious anemia, glomerulonephritis, and pulmonary fibrosis. ANAs can also be found in patients with conditions that are not considered classic autoimmune diseases, such as chronic infections and cancer. Thus, ANAs indicate the possible presence of autoimmunity and provide, therefore, an indication for doctors to consider the possibility of autoimmune illness (1).

The ANA test was designed by Dr. George Friou in 1957. The ANA test is performed using a whole blood sample. The antibodies in the serum of the blood are exposed to human epithelioid cells. It is then determined whether or not antibodies are present that react to various parts of the nucleus of cells. ANAs present different "patterns" depending on the staining of the cell nucleus: homogeneous or diffuse; speckled; nucleolar; and peripheral or rim. While these patterns are not specific for any one illness, certain illnesses can more frequently be associated with one pattern or another. The patterns then can sometimes give the doctor further clues as to types of illnesses to look for in evaluating a patient. For example, the nucleolar pattern is more commonly seen in the disease scleroderma. The speckled pattern is seen in many conditions and in persons who do not have any autoimmune disease (1, 2).

ANAs can be found in approximately 5% of the normal population, usually in low titers. These persons usually have no disease. ANA titers of less than 1:40 are considered negative. Even higher titers are often insignificant in patients over 60 years of age. Therefore, for any positive ANA test titration is recommended. Ultimately, the ANA result must be interpreted in the specific context of an individual patient's symptoms and other test results (2).

Therefore, ICL is proud to present you with the Immuno Concept HEp-2000 ANA-Ro test system with transfected mitotic human epithelioid cells (HEp-2), an advanced immunoenzyme system for detection

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of ANA. HEp-2 cells with mitotic figures have been shown to have greater sensitivity and yield sharper pattern recognition than classical ANA tests that uses mouse kidney substrate in detecting antibodies in progressive systemic sclerosis.

1. Clinical Primer of Rheumatology, Lippincott Williams and Wilkens, edited by William Koopman, et. al., 2003.

2. Kelley's Textbook of Rheumatology, W B Saunders Co, edited by Shaun Ruddy, et.al., 2000.



INTERNATIONAL CLINICAL LABORATORIES /ICL/

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