

21-Hydroxylase Antibody

FOR MEASUREMENT OF AUTOANTIBODY TO HUMAN

Clinical Background

This test detects human serum autoantibodies to steroid 21-hydroxylase (21-OH) using radioimmunoassay. Quantification of autoantibodies to this enzyme can be of significant value in the diagnosis of autoimmune adrenal disease, either isolated Addison disease or when part of the more complex autoimmune polyglandular syndrome (APS), type I or II.

Disease Overview

- Chronic primary adrenal insufficiency (Addison disease) is most commonly caused by the autoimmune destruction of the adrenal cortex and is characterized by autoantibodies to the adrenal cortex in the serum. It can occur sporadically or in conjunction with other autoimmune diseases that, together, comprise type I and type II autoimmune polyglandular syndrome (APS).
- Historically, the measurement and detection of autoantibodies have been done by using indirect immunofluorescence of the adrenal cortex, which is difficult and technically demanding. The identification of 21-OH as the specific autoantigen in Addison disease has allowed for the development of a simple, specific, and highly-sensitive RIA utilizing a clinically relevant tracer suitable for application in a variety of clinical

Pathophysiology

21-OH (55 kilodalton), the microsomal autoantigen, has been shown to be the primary autoantigen associated with autoimmune Addison disease. 21-OH antibodies are markers of autoimmune Addison disease, whether it presents alone, or as part of type I or type II autoimmune polyglandular syndrome. For this reason, the measurement of 21-OH antibodies is an important step in the investigation of adrenal insufficiency, and may also aid in the detection of those at risk of developing autoimmune adrenal failure in the future.

Indications for Ordering

For diagnosing Addison disease, APS type I, and APS type II.

Interpretation

Values in healthy subjects should be ≤ 1.0 units/mL. Values > 1.0 units/mL are deemed positive for 21-OH antibody.

Methodology

Measures antibodies against 21-OH by radioimmunoassay.

Epidemiology

Nearly 60 percent of patients with autosomal idiopathic adrenal insufficiency can be shown to have autoantibodies to 21-OH.

References

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4. Furmaniak J, et al. Autoimmune Addison disease: evidence for a role of steroid 21-Hydroxylase autoantibodies in adrenal insufficiency. *J Clin Endocrinol Metab* 1994;79:1108-1112.
5. Falorni A, et al. High diagnostic accuracy for idiopathic Addison disease with a sensitive radiobinding assay for autoantibodies against recombinant human 21-Hydroxylase. *J Clin Endocrinol Metab* 1995;80:2752-2755.
6. Colls J, et al. Immunoprecipitation assay for autoantibodies to steroid 21-Hydroxylase in autoimmune Addison disease. *Clin Chem* 1995;41:375-380.

Test Information

0070265 **21-Hydroxylase Antibody**

For specific collection, transport, and testing information, refer to the ARUP Web site at www.aruplab.com.