

Urticaria-Inducing Activity and Urticaria-Induced Basophil Activation

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Chronic spontaneous urticaria (hives) is a condition of primarily autoimmune etiology. These tests are used to evaluate suspected chronic spontaneous urticaria:

- The Urticaria-Inducing Activity assay determines if serum from an individual with suspected chronic spontaneous urticaria induces histamine release from healthy donor peripheral blood basophils. Histamine release can be mediated by IgG and/or IgE autoantibodies and is measured by an enzyme-linked immunosorbent assay (ELISA).
- The Urticaria-Induced Basophil Activation assay assesses if serum from an individual with suspected chronic spontaneous urticaria induces degranulation of healthy donor peripheral blood basophils. The assay uses flow cytometry to measure upregulation of CD203c on basophils as a marker of induced degranulation.
- The Urticaria-Inducing Activity with Thyroid Antibodies and Stimulating Hormone assay includes the Urticaria-Inducing Activity assay and also screens for possible thyroid autoimmunity in individuals with suspected chronic spontaneous urticaria.

Featured ARUP Testing

[Urticaria-Inducing Activity 2005413](#)

Method: Semi-Quantitative Ex Vivo Challenge/Cell Culture/Quantitative Enzyme-Linked Immunosorbent Assay

[Urticaria-Induced Basophil Activation 2005416](#)

Method: Semi-Quantitative Flow Cytometry

[Urticaria-Inducing Activity with Thyroid Antibodies and Stimulating Hormone 2005415](#)

Method: Semi-Quantitative Ex Vivo Challenge/Cell Culture/Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)/Quantitative Chemiluminescent Immunoassay (CLIA)

Test Interpretation

Results

Result	Basophil Activation	Interpretation
Urticaria-Inducing Activity^a		
>10 Index units	Positive	Suggests the presence of basophil stimulating autoantibodies (or other serum factors) Suggests autoimmune basis for urticaria
≤10 Index units	Negative	No basophil stimulating autoantibodies detected
Urticaria-Induced Basophil Activation		
≥39%	Positive	Basophil activation detected Suggests autoimmune basis for urticaria
28-38%	Indeterminate	Borderline basophil activation detected Possible autoimmune basis for urticaria
≤27%	Negative	No basophil activation detected

^aThis test is also a component of the Urticaria-Inducing Activity with Thyroid Antibodies and Stimulating Hormone test, which also reports concentrations for thyroid stimulating hormone, thyroid peroxidase antibody, and thyroglobulin antibody.

Limitations

- These tests are validated for serum only.
- These tests do not identify or differentiate specific basophil-stimulating serum factors.

