What is Basophil Activation Test (BAT)?

BAT is an "allergic reaction in a test tube". The core of BAT testing is the quantitative determination of the expression of activation markers on basophil surface, preferably in whole blood, by flow cytometry upon allergen stimulation.

Components of BAT

Blood basophils → Allergen → Fluorochrome conjugated mAbs to identify basophils (like CCR3) → Flow cytometric analysis of activation.

- Evaluate activation (like CD63)

Clinical integration of test results!

Cellular test to assess the presence and function of IgE antibodies (IgE-ab)

BAT has an improved diagnostic sensitivity and/or specificity in comparison to other in vitro tests.

BAT opportunity in allergy testing

- Testing of the "IgE-ab negative" or inconclusive patients.
- Unique testing of the allergens which are not available for IgE-ab determination in sera.
- To test allergen sensitivity.

Areas of routine diagnostic use

- Drug allergy
- Hymenoptera venom allergy
- Food allergy
- Inhalant allergy
- Chronic urticaria

Take-home message