

Skin tests

Skin tests are used to monitor specific cell-mediated immunity, or **late hypersensitivity reactions**. We can use them to determine the success of the patient's immunization after vaccination or to support the diagnosis of a past or an ongoing infection. These tests are performed *in vivo* by applying the antigen into the patient's skin, usually in the forearm.

Test examples

The most used skin tests include, for example, the tuberculin test, Ducrey test, and Schick test. Other skin tests include the lepromin test, Brucellin test, and Frei test.

Tuberculin test

Tuberculin test (Mantoux test) is mostly used to **determine the effectiveness of vaccination against tuberculosis** in children. As of November 1 2010, the nationwide compulsory vaccination of newborns against tuberculosis was revoked in the Czech Republic, which is why the test is now being used increasingly to **diagnose ongoing infections instead**. A mixture of proteins produced by mycobacteria (*tuberculin*) was once used for the application. Today, a PPD (*purified protein derivative*) is used instead. The injection causes an **inflammatory reaction with redness and induration at the injection site**.



Tuberculin test

The diameter of the lesion is measured after 48-72 hours and it is evaluated

- less than 5 mm – negative
- between 6 mm and 10 mm – postvaccination hypersensitivity
- more than 15 mm – postinfection hypersensitivity
- between 10 mm and 15 mm – can be both types of hypersensitivities

Ducrey test

Ducrey test consists of administering a suspension of inactivated hemophiles. A positive result means the patient had a *Haemophilus ducreyi* infection.

Schick test

Schick test is used to demonstrate **antitoxic immunity** against *Corynebacterium diphtheriae*. After the intradermal administration, no reaction is seen in immune subjects, while redness at the injection site (erythematous reaction) occurs in non-immune subjects.

Lepromin test

Lepromin test (*Mitsuda test*) is used to diagnose Leprosy. The antigen (*lepromin*) is obtained from leprosy lesions.

Brucellin test

Brucellin test uses inactivated brucellas or *brucelin* or *brucelergen* as an antigen. The result is not very valuable in areas with brucellosis and in suspected inapparent infections.

Frei test

Frei test is used to diagnose lymphogranuloma venereum or to detect a *Chlamydia trachomatis* infection.

References

Related articles

- Chancroid
- Cultivation
- Serology
- Tuberculosis (pathology)

Literature

- JULÁK, Jaroslav. *Úvod do lékařské bakteriologie*. 1. edition. Praha : Karolinum, 2006. 404 pp. ISBN 8024612704.