

Immunofluorescence examination in dermatology

Immunofluorescence examination is used to detect antigens in tissues or cells and also enables the detection of antibodies. **Direct immunofluorescence detects antigens present in tissues** using labeled antibodies. In contrast, **indirect fluorescence** demonstrates the presence of specific antibodies in the *serum*, so that after the serum is collected and its reaction with the substrate, labeled antibodies are bound against the patient's serum antibodies.

Direct immunofluorescence

Direct immunofluorescence is a routine method in dermatology. The most important thing is the correct selection of the tissue collection site. For example, in blistering diseases the tissue is excised in close proximity to the vesicle, in erythematodes and porphyrias we choose a place exposed to the sun, i.e. the face, neck or deltoid area.

- In pemphigus vulgaris, we detect autoantibodies (IgG and C3) bound in the area of *desmosomes*
- Bullous pemphigoid can be diagnosed by the presence of IgG and C3 in the *basement membrane region of the epidermis*
- In dermatitis herpetiformis Dühring, we find IgA antibodies granularly arranged in the *papillae of the dermis* in the vicinity of the blisters
- Lupus erythematosus is characterized by the presence of IgG, possibly also C3, IgA and IgM in the *dermoepidermal junction area*
- In immunocomplex vasculitides, we find deposits of IgG, C3 and fibrin antibodies *in the vessel walls*
- In porphyria (*porphyria cutanea tarda*) we see a lupus anti-IgG band in the junctional zone and sac-like dilatations of vessels with deposits of IgG, C3 and fibrin in the walls

Indirect immunofluorescence

In **indirect immunofluorescence**, we evaluate the presence and amount of autoantibodies in the patient's serum.

- anti-neutrophil cytoplasmic antibodies (ANCA)
- antibodies against dsDNA
- antibodies against mitochondria
- antibodies against endomysium

Links

Related Articles

- Laboratory examination in dermatovenerology
- ELISA

External links

- VLAŠÍN, Zdeněk. *Atlas dermatopatologie : Immunofluorescence* [online]. [cit. 2010-05-22]. <https://atlases.muni.cz/atlas/kuze/atl_cz/main+uvod+immunofluor.html>.
- FAUSTMANNOVÁ, Olga. Imunohistologické vyšetření kůže – praktické poznámky. *Interní medicína – mezioborové přehledy* [online]. 2002, y. -, no. 12, p. 11-14, Available from <<http://www.solen.cz/pdfs/int/2002/12/15.pdf>>.

References

- VLAŠÍN, Zdeněk. *Atlas of dermatopathology : Immunofluorescence* [online]. [cit. 2010-05-22]. <https://atlases.muni.cz/atlas/kuze/atl_cz/main+uvod+immunofluor.html>.
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- ŠTORK, Jiří. *Dermatovenerology*. 1. edition. Prague : Galén, Karolinum, 2008. 502 pp. ISBN 978-80-7262-371-6.