

# Immune defense against multicellular parasites

The defense against multicellular parasites consists of the following steps:

- IgE production ,
- proliferation and differentiation of helper T-lymphocytes .

The critical factor is IL-4 produced by mast cells and other APCs stimulated by contact with the parasite . Effector TH2-lymphocytes stimulate the terminal differentiation of B-lymphocytes carrying BCR specific for parasitic antigens . Again, under the influence of IL-4, isotype switching and IgE antibody production occur. IgEs attach to FcεR (IgE-receptors) on the surface of mast cells and basophils. After contact of the cells thus equipped with the parasite, IgE aggregation occurs and mediators are released in the cytoplasmic granules. This leads to the activation of **membrane phospholipase A2 and the formation of arachidonic acid metabolites** . This leads to amplification inflammatory reactions . Later, T H1 lymphocytes are stimulated and antibodies of other classes are synthesized, leading to suppression of manifestation. Eosinophilic granulocytes (differentiated under the influence of IL-5) are also considered effector cells . Eosinophils can phagocytose complexes of parasitic particles with IgE through their IgE receptors.

Insufficient contact with multicellular parasites in childhood can lead to the development of type I allergies .

## Links

### Related articles

- immune defense against extracellular bacteria
- immune defense against intracellular bacteria and fungi

### References

- HOŘEJŠÍ, Václav – BARTŮŇKOVÁ, Jiřina. *Základy imunologie*. 3. edition. Praha : Triton, 2008. 280 pp. ISBN 80-7254-686-4.