Cooperation of immunocompetent cells in the T immune response

A cell-mediated immune response is any response in which antibodies play a minor role. The main task is to eliminate the cells infected with the virus. The effector cells that are able to lyse these target cells are **cytotoxic lymphocytes - Tc**.

Additional information

- **Tc** develops from precursors upon contact with antigen, in such a way that the antigen is absorbed by the APC (antigen-presenting cells) upon entry into the organism and, after processing, antigen fragments are **exposed on the surface of the APC**, some together with class I molecules, others with molecules Class II MHC. Complexes of antigen and **class I** molecules are recognized by **Tc** receptors with the contribution of the **CD8** molecule,
- antingens with **class II** molecules are recognized by $\mathbf{T_H}$ lymphocytes using the **CD4** molecule,
- antigen binding to the TCR is an important signal for T cell activation,
- additional signals are provided by adhesive molecules, similar to B-lymphocytes,
- T_H and Tc begin to divide, which is also contributed by cytokines: IL-1 produced by APC cells, IL-2 produced by T_H lymphocytes,
- mature Tc lymphocytes recognize infected cells through their receptor, which express the viral antigen and the class I molecule on their surface,
- Tc binds to the target cell and, through **hydrolytic enzymes** and **proteins (perforin)** ocontained in the vesicles, kills the cell,
- the cytotoxic lymphocyte survives this dramatic event and can kill other target cells.

Links

Related articles

- Cooperation of immunocompetent cells in the B immune response

Source

- ŠTEFÁNEK, Jiří. *Medicína, nemoci, studium na 1. LF UK* [online]. [cit. 11. 2. 2010]. <https://www.stefajir.cz/>.