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Sommario/riassunto	Cytotoxic lymphocytes, comprised of NK cells and cytotoxic T cells, play a pivotal role in immune defense. By directed release of perforin-containing lytic granules, NK and cytotoxic T cells can eradicate pathogen-infected, tumorigenic, and otherwise stressed cells. By the virtue of cytokine and chemokine secretion, they can influence other cells of the immune system. Through these processes, cytotoxic lymphocytes also contribute to the maintenance of immune homeostasis. In recent years, much progress has been made with respect to the mechanisms by which cytotoxic lymphocytes develop, differentiate, and exert their effector functions. In a clinical perspective, a wide variety of mutations impairing cytotoxic lymphocyte development and/or function have been associated with immunodeficiency and severe diseases in humans. Aberrant activity of cytotoxic T cells and/or NK cells has been linked to an increased susceptibility to viral infections, persistent inflammation, cancer and autoimmunity. In addition, lymphocyte cytotoxic activity may be harnessed therapeutically to target tumor cells in different adoptive cellular therapy regimes, or through the use of recombinant antibodies. Still, a number of questions remain in regards to how cytotoxic

lymphocytes develop, their relationships and plasticity, as well as the mechanisms dictating target cell discrimination, lytic granule release and induction of target cell death. In this Research Topic we encourage submission of research articles, reviews, perspectives, or methods on cytotoxic lymphocyte development and function, their relation to the pathogenesis or treatment of different diseases, as well as comparison between similarities and/or differences in their effector functions. Considering the clinical significance of NK cells and cytotoxic T cells, we aim to provide a range of articles summarizing the current knowledge on the identification and elucidation of the mechanisms governing cytotoxic lymphocyte activity.