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Sommario/riassunto	Cell-mediated immunity to extracellular and intracellular microbes has been traditionally linked to CD4+ and CD8+ T cells that recognize pathogen-derived peptides in the context of major histocompatibility complex (MHC) class II and class I molecules, respectively. Recent progress in our understanding of early host defense mechanisms has brought ‘unconventional’, innate-like T cells into the spotlight. These are a heterogeneous population of non-MHC-restricted T cells that exhibit ‘memory-like’ properties and mount emergency responses to infection. They may directly detect and destroy infected cells, but are best known for their ability to regulate downstream effector cells including but not limited to conventional T cells. Innate-like T cells include among others CD1-restricted natural killer T (NKT) cells and MR1-restricted mucosa-associated invariant T (MAIT) cells. NKT cells recognize lipid antigens, and MAIT cells were recently demonstrated to respond to microbe-derived vitamin B metabolites. However, much remains to be learned about the antigen specificity range of these cells, their activation mode and their true potentials in immunotherapeutic applications. Like in many other areas of biology, uncertainties and controversies surrounding these cells and some of the experimental models, techniques and reagents employed to study them have brought about excitement and sometimes hot debates. This Special Topic was

launched to provide updated reviews on protective and/or pathogenic roles of NKT and MAIT cells during infection. Leading experts discuss current controversies, pressing questions and the challenges that lie ahead for the advancement of this intriguing and rapidly evolving area of immunology. Unlike MHC, CD1 and MR1 display very limited polymorphism. Therefore, NKT and MAIT cells may be considered attractive targets for various diseases in diverse human populations. The potential benefits of NKT cell- and MAIT cell-based vaccination and treatment strategies in infectious diseases is an important subject that is also covered in this Topic.