1. Record Nr. UNINA9910557255403321

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| Titolo | Natural Killer Cells in Tissue Compartments |
| Pubbl/distr/stampa | Frontiers Media SA, 2020 |
| Descrizione fisica | 1 electronic resource (256 p.) |
| Soggetti | Medicine<br>Immunology |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Sommario/riassunto | n the last years, our knowledge of human NK cell biology has increased significantly. Several stimulating studies have provided the basis for understanding how NK cells can be “educated” to acquire immunological competence following maturation, or to adapt their function to the environmental changes of “self”. New information has been acquired on their lifespan and on the persistence of memory-like NK cell subsets in response to certain viral infections. In addition, the identification and characterization of new markers and the development of more effective analytic approaches have led to the definition of various phenotypically and/or functionally-defined cell subsets. These advances have, in turn, enabled us to study NK cells beyond the peripheral blood, in different tissue compartments including the bone marrow, liver, lungs, skin, intestine and uterus. Recent data indicates that at least part of the tissue NK cell compartment consists of resident cells (which rarely recirculate) characterized by tissue-specific phenotypes and, in some cases, endowed with specialized functions related to the distinct organs in which they reside. These findings stimulate further questions (i) on the origins of these putative tissue-specific NK cell subsets; (ii) on their functional interplay with the local microenvironment; (iii) on their immunological competence and memory capacity and (iv) on their possible specific functional role in healthy and diseased tissues. In this |

context, the assessment of phenotype, function, maturation, education, differentiation and reprogramming of effector functions in tissue NK cells represents a new stimulating field of investigation that would help to get a more comprehensive picture of NK cell biology. In this Research Topic, we collect articles that highlight the recent advances in our understanding of tissue NK cells and that provide insight into opening new viewpoints on the role of NK cells in both health and disease.