The interaction between immune cells and tumors is a complex and dynamic process that can have both positive and negative effects on tumor growth and progression. Immune cells play important roles in the recognition and elimination of tumor cells, but tumors can also evade immune surveillance by exploiting various mechanisms to suppress or evade immune responses.

One of the key functions of immune cells in the context of tumor immunity is to recognize and eliminate tumor cells through a process called immune surveillance. This involves the activation of immune cells such as T cells and natural killer (NK) cells, which recognize and kill tumor cells through a variety of mechanisms. However, tumors can also use various mechanisms to evade or suppress immune responses, such as downregulating expression of molecules that are important for immune recognition or inducing the production of immune-suppressive cytokines.

Understanding the functions, mechanisms, and impact of crosstalk between immune cells and tumors is important for the development of new immunotherapeutic strategies for cancer treatment. For example, immune checkpoint inhibitors have been developed that can block the interaction between immune checkpoint molecules and their receptors on immune cells, leading to enhanced anti-tumor immune responses.

The Research Topic had the bullet points including, but is not limited to the following:

1. The role of immune checkpoint molecules in regulating the crosstalk between immune cells and tumors and their impact on tumor progression.

2. The mechanisms underlying the interaction between T cells and tumor-associated macrophages in the tumor microenvironment and their impact on tumor growth and metastasis.
3. The impact of tumor-derived exosomes on the crosstalk between immune cells and tumors and their role in promoting tumor progression.

4. The role of regulatory T cells in suppressing anti-tumor immune responses and their potential as a therapeutic target in cancer treatment.

5. The impact of different types of immune cells (e.g., T cells, B cells, NK cells) on tumor growth and progression and the mechanisms underlying their effects.

6. The role of the gut microbiome in modulating the crosstalk between immune cells and tumors and its potential as a therapeutic target in cancer treatment.

7. The impact of genetic variations in immune-related genes on the crosstalk between immune cells and tumors and their association with cancer risk and prognosis.

8. The use of advanced imaging techniques to visualize the crosstalk between immune cells and tumors in real-time and to study the dynamics of immune cell infiltration and activation in the tumor microenvironment.

9. The development of novel immunotherapeutic strategies that target the crosstalk between immune cells and tumors, such as the use of chimeric antigen receptor (CAR) T cells.

10. The impact of environmental factors (e.g., diet, pollution) on the crosstalk between immune cells and tumors and their association with cancer risk and progression.

The special issue focuses on:

- Tumor Microenvironment
- Cancer Immunology
- Immunocytes
- Immune Evasion
- Immunotherapy

Original research articles and review articles are welcome for the special issue (https://www.degruyter.com/journal/key/oncologie/html).

Publication of the special issue is planned for 2024.

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