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Tumor microenvironment in primary liver tumors: A challenging role of natural killer cells

Polidoro MA *et al.* Tumor microenvironment in primary liver tumors

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Author: Ombretta Melaiu, Valeria Lucarini, L... **Publish Year:** 2020

Natural killer cells in the brain tumor microenvironment ...

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Immune evasion mechanisms of brain **tumors** against **natural killer (NK)** cell surveillance and killing in the brain **microenvironment**. **Tumor cells** can secrete anti-inflammatory molecules (e.g., **tumor necrosis factor-β**) that bind and interact with NK cell receptors and eventually downregulate the frequency and cytotoxic activity of NK **cells** in the brain **microenvironment**.

Cited by: 4 **Author:** Jawad Fares, Mohamad Y. Fares, Youss...

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Frontiers | Unleashing Natural Killer Cells in the Tumor ...

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Natural Killer (NK) cells are a heterogeneous subset of immune cells, which express a diverse array of activating and **inhibitory germline-encoded receptors**, and are thus capable of directly targeting and killing **cancer cells** without the need for MHC specificity. Furthermore, they play a critical role in triggering the adaptive immune response.

Author: Aviad Ben-Shmuel, Guy Biber, Mira ... **Publish Year:** 2020

Frontiers | Tumor Microenvironment-Induced Immunometabolic ...

<https://www.frontiersin.org/articles/10.3389/fimmu.2018.02517> ▼

At the same time, **cellular metabolism** also mediates **immune cell survival**, proliferation and **cytotoxic responses** within the **tumor microenvironment**. The ability of **natural killer cells** to eradicate tumors relies on their ability to functionally persist for the duration of their **anti-tumor**



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The Role of the Tumor Microenvironment in the Development ...

<https://www.ncbi.nlm.nih.gov/books/NBK549192>

The inflammatory **microenvironment** facilitates the transformation of normal **liver cells** such as hepatocytes, stem, immune, and stellate **cells** by providing a suitable environment for the development and progression of a **tumor** (5, 6). HCC is a **primary liver tumor** that derives, in most cases, from hepatocytes and corresponds to approximately 90% of ...

Cited by: 1**Author:** Ina Sevic, Fiorella Mercedes Spinelli, M...**Publish Year:** 2019

Frontiers | Tumor Microenvironment-Induced Immunometabolic ...

<https://www.frontiersin.org/articles/10.3389/fimmu.2018.02517> ▼**Introduction****Natural Killer Cell Subsets****Immunometabolic Cytokine ..**

Warburg metabolism, alongside glutamine turnover, is a hallmark of cancer, associated with elevated metabolism of glucose to produce ATP and sustain rapid cancer cell growth (1). Such metabolic reprogramming from glycolysis to oxidative phosphorylation results in the activation of a number of signaling pathways, upregulation of oncogenes and transcriptional factors, and inactivation of tumor suppressor genes. Similarly, natural killer (NK) cells undergo tumor-induced ...

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Role of the Microenvironment in the Pathogenesis and ...

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HCC is the most frequent **primary** form of **liver cancer** and the third most deadly **tumor** globally, following lung and stomach cancers 1. With more than 750,000 new cases diagnosed every year worldwide, HCC is the sixth most common neoplasm 2. Unlike other carcinomas, its incidence is steeply increasing, mainly due to the increasing prevalence of advanced hepatitis C virus (HCV) infection.

Cited by: 519**Author:** Virginia Hernandez-Gea, Virginia Hernan...**Publish Year:** 2013

Influence of the Tumor Microenvironment on NK Cell ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6985149>

Jan 21, 2020 · Introduction. **Natural killer (NK) cells** are a specialized population of innate lymphoid **cells** (ILCs) that mediates cytotoxic functions against damaged, infected, and pre-malignant **cells** through an intricate network of signals that allow for rapid activation (). NK cell cytotoxicity is mainly regulated by the secretion of effector molecules (IFN- γ , TNF- α , NO, IL-2, IL-12, IL-15, IL-18, and IL ...

Cited by: 11**Author:** Ombretta Melaiu, Valeria Lucarini, Loreda...**Publish Year:** 2020

Oncogenic driver genes and tumor microenvironment ...

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May 04, 2020 · **Primary liver cancer** (PLC) is the fifth most prevalent **cancer** and the third common cause of **cancer**-related mortality worldwide 1. PLC is insensitive to ...

Cited by: 2**Author:** Gang Wang, Qian Wang, Ning Liang, Ho...**Publish Year:** 2020

Role of the Microenvironment in Liver Metastasis: From Pre ...

<https://clincancerres.aacrjournals.org/content/22/24/5971> ▼

Dec 15, 2016 · Introduction. **Cancer** metastasis remains the major challenge to successful management of malignant disease. The **liver** is the main site of metastatic disease and a major cause of death from gastrointestinal malignancies, such as colon, gastric, and pancreatic carcinomas as well as melanoma, breast **cancer**, and sarcomas (). Circulating metastatic **cells** that enter the **liver** encounter unique ...

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