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Abstract

Regulatory NK-cells induce myeloid-derived suppressor cell phenotypes in breast cancer and melanoma immune escape

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Abstract:

The plasticity of Natural Killer (NK) cell functions is dependent on cell localisation and its interactions within the microenvironment. Since higher frequency of tumor-infiltrating NK cells often do not predict response to immune therapy, the concept of tumor-associated regulatory NK cells may be plausible. We recently demonstrated that these regulatory NK cells express CD73 a metabolic immune checkpoint together with proteins involved in tumor immune suppression. While the characteristics of regulatory NK cells remains unclear, we investigated phenotyping and functional changes of NK cells that failed to effectively kill breast cancer and melanoma targets. Using tumor models that escapes NK cell-mediated cytotoxicity, it was observed that the tumor-experienced NK cells promotes the development of Myeloid-derived suppressor cells (MDSC) from peripheral blood monocytes. Not only we demonstrated that NK cell- mediated MDSC development was dependent on GM-CSF and IL-6 produced by IFNy- NK cells, the suppressive capacity of induced MDSCs were found to negatively correlated with NFkB phosphorylation. Taken together, we characterized the cellular interactions and non-canonical immune suppressive functions of tumor-associated NK cells, suggesting how regulatory NK cells can reshape the tumor immune landscape.

Biography:

Shi Yong Neo is currently associated with Karolinska Institute, Sweden

Recent Publications:

1. Neo S.Y., O'Reilly A., Pico de Coaña Y. (2019) Immune Monitoring of Cancer Patients by Multi-color Flow Cytometry. In: Pico de Coaña Y. (eds) Immune Checkpoint Blockade. Methods in Molecular Biology, vol 1913. Humana Press, New York, NY

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