Poster

Role of the Myeloid-Derived Suppressor Cells (MDSC) in the anti-inflammatory milieu of the bone marrow in murine newborns

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ABSTRACT

Single-Cell studies revealed an anti-inflammatoy environment in the perinatal encdochondral bone marrow (BM), promoted, in part, by cells resemble Myeloid-Derived Suppresive Cells (MDSC) (Rueda AD et al). MDSC are present in newborns (in adults, only in some pathological conditions such as tumors) and seems to be important to protect newborn's microbiota, suppresing both innate and adaptative immune response. To assess whether or not perinatal BM-derived myeloid cells have immunosuppressve properties we sorted murine postnatal 4 neutrophils and macrophages and evaluated their capacity to inhibit adult T cell activation in vitro. The results showed both neutrophils and macrophages display MDSC characteristics.

REFERENCES

Rueda AD, Salvador-Martínez I, Sospedra-Arrufat I, Alcaina-Caro A, Fernández-Miñán A, Burgos-Ruiz AM, Cases I, Mohedano A, Tena JJ, Heyn H, Lopez-Rios J, Nusspaumer G. The cellular landscape of the endochondral bone during the transition to extrauterine life. Immunol Cell Biol. 2024 Feb;102(2):131-148.

Jablonska, J., and Brandau, S. (2022). PMN-MDSC in newborns: Regulation of the regulators. J Leukoc Biol 112, 949-950. 10.1002/JLB.3CE0522-283R. .

Gabrilovich, D.I., and Nagaraj, S. (2009). Myeloid-derived suppressor cells as regulators of the immune system. Nat Rev Immunol 9, 162-174. 10.1038/nri2506.