Tumor associated macrophage

Tumor associated macrophages (TAMs) are a type of cell belonging to the macrophage lineage. They are found in close proximity or within tumor.

TAMs are derived from circulating monocytes or resident tissue macrophages, which form the major leukocytic infiltrate found within the stroma of many tumor types. The function of TAMs is controversial as there is growing evidence for their involvement in both pro-tumor (e.g. promotion of growth and metastasis through tumor angiogenesis) as well as anti-tumor (tumoricidal and tumorostatic) processes.

TAMs interact with a wide range of growth factors, cytokines and chemokines in the tumor microenvironment which is thought to educate the TAMs and determine their specific phenotype and hence functional role as the microenvironment varies between different types of tumors. TAMs have therefore been shown to differ in their roles depending on the type of tumor with which they are associated.

In many tumor types TAM infiltration level has been shown to be of significant prognostic value. TAMs have been linked to poor prognosis in breast cancer, ovarian cancer, types of glioma and lymphoma; better prognosis in colon and stomach cancers and both poor and better prognoses in lung and prostate cancers.

The interactions of Tumor associated macrophage (TAMs) and Sonic Hedgehog (SHH) medulloblastoma cells may contribute to tumor growth revealing TAMs as a potential therapeutic target.