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In vitro-induced M2 type macrophages induces the resistance of prostate cancer cells to cytotoxic action of NK cells

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Abstract

Previous reports, including our experimental results, showed that macrophages migrate to prostate cancer (PCa) cells. We tested whether the migrated macrophages affect the susceptibility of castration-resistant PCa (CRPC) cells to cytotoxic actions of natural killer (NK) cells. We found treatment of tumor cells with the conditioned media (CM) of the PMA/IL-4 treated THP-1 cells (M2 type macrophages) (THP-1 CM) decreased the susceptibility of tumor cells to NK cell cytotoxicity, as a result of increased programmed death receptor ligand 1 (PD-L1) and decreased NK group 2D (NKG2D) ligands in CRPC cells. Meanwhile, the decreased susceptibility of tumor cells was also detected when NK cells were treated with THP-1 CM and