Han Xiao, J Cancer Sci Ther 2017, 9:11 (Suppl)
DOI: 10.4172/1948-5956-C1-117

14th Asia Pacific
ONCOLOGISTS ANNUAL MEETING
November 20-22, 2017 Melbourne, Australia

Soluble CD160 enhances antitumor immunity against murine H22 hepatocarcinoma in vivo

Han Xiao
Wuhan Medical and Health Center for Women and Children, China

The glycosylphosphatidylinositol (GPI)-anchored CD160 is a relatively new co-inhibitory molecular and expressed mainly on cytolytic cells such as $CD8^+$ T cells, natural killer (NK) T cells, NK cells and some $CD4^+$ T cells. CD160 on virus-specific CD8+ T cells is up-expressed and generally associated with T cells dysfunction, thus considered as an exhaustion marker. However, CD160 expression on tumor-specific $CD8^+$ T cells and its contribution to tumor-specific $CD8^+$ T cells impairment remains unclear. Here, we try to decipher its regulatory effects on tumor-specific $CD8^+$ T cells function and seek a new target for tumor therapy. $CD8^+$ T cells were separated from splenocytes of tumor-bearing mice and expression of CD160 and HVEM was detected. A eukaryotic expression plasmid (psCD160) was constructed, expressing the extracellular domain of murine CD160 (soluble CD160) which could block the interaction between CD160 and HVEM by binding HVEM. The activity of proliferation and cytolysis and secretion of cytokines by $CD8^+$ T cells were measured after being incubated by soluble CD160 and specific tumor antigen. The treatment effects of psCD160 combined with tumor-vaccine *in vivo* were observed by H22 hepatocarcinoma mice tumor model. The up-regulated expression of CD160 on $CD8^+$ T cells from tumor-bearing mice was confirmed to be related to cells dysfunction, characterized by lower proliferation and cytotoxicity activity and less cytokine production. Soluble CD160 enhances $CD8^+$ T cells, resulting in increased IFN-γ, IL-2 and TNF-α secretion and cytolysis against target tumor cells *in vitro*. The administration of soluble CD160 accompanied with tumor-vaccine inhibited tumor growth and prolonged the survival of tumor-bearing mice. Expression of CD160 defined a relatively decreased activity subset of $CD8^+$ T cells and soluble CD160 augments immunological activity and function of tumor-specific $CD8^+$ T cells and acquired significant treatment effects against existent tumor cells *in vivo*.

Biography

Han Xiao has graduated from the Clinical Medicine Department of Tongji Medical College of Huazhong University of Science and Technology. She has received a Doctor's degree in Molecular Biology. Her research interests are in tumor research, treat primary tumor and metastasis by the combination delivery of chemotherapy drugs, tumor vaccine and gene therapy to activate or block some signal transduction.

hanxiao.china@gmail.com

Notes: