Title: Interleukin 2 and interleukin 10 function synergistically to promote $CD8^+$ T cell cytotoxicity, which is suppressed by regulatory T cells in breast cancer

Authors: Xiaogang Li, Ping Lu, Bo Li, Wanfu Zhang, Rong Yang, Yan Chu, Kaiyuan Luo

PII: S1357-2725(17)30049-3
DOI: http://dx.doi.org/doi:10.1016/j.biocel.2017.03.003
Reference: BC 5089

To appear in: *The International Journal of Biochemistry & Cell Biology*

Received date: 16-11-2016
Revised date: 31-1-2017
Accepted date: 3-3-2017

Please cite this article as: Li, Xiaogang., Lu, Ping., Li, Bo., Zhang, Wanfu., Yang, Rong., Chu, Yan., & Luo, Kaiyuan., Interleukin 2 and interleukin 10 function synergistically to promote CD8+ T cell cytotoxicity, which is suppressed by regulatory T cells in breast cancer.*International Journal of Biochemistry and Cell Biology* http://dx.doi.org/10.1016/j.biocel.2017.03.003

Interleukin 2 and interleukin 10 function synergistically to promote CD8$^+$ T cell cytotoxicity, which is suppressed by regulatory T cells in breast cancer

Xiaogang Li[1], Ping Lu[2], Bo Li[1], Wanfu Zhang[1], Rong Yang[1], Yan Chu[1], Kaiyuan Luo[1]

[1]Department of General Surgery, The Second People's Hospital of Yunnan Province, Kunming, Yunnan 650021, China

[2]Science and Education Division, The Second People's Hospital of Yunnan Province, Kunming, Yunnan 650021, China

Corresponding author

Ping Lu

Science and Education Division,

The Second People's Hospital of Yunnan Province,

176 Qingnian Road, Kunming, Yunnan 650021, China

Email: pinglukm003@qq.com

Short title: IL-10 and breast cancer.

Abstract

The precise role of interleukin (IL)-10 in breast cancer is not clear. Previous studies suggested a tumor-promoting role of IL-10 in breast cancer, whereas recent discoveries that IL-10 activated and expanded tumor-resident CD8$^+$ T cells challenged the traditional view. Here, we investigated the role of IL-10 in HLA-A2-positive breast cancer patients with Grade III, Stage IIA or IIB in-situ and invasive ductal carcinoma, and compared it with that of IL-2, the canonical CD8$^+$ T cell growth factor. We first observed that breast cancer patients presented higher serum levels of IL-2 and IL-10 than healthy controls. Upon prolonged TCR stimulation, peripheral blood CD8$^+$ T cells