CD16A shedding facilitates repetitive targeting of tumor cells by AFM13-armed NK cells

Chiarla Zambarda¹, Karolin Guldevall¹, Damien Toullec¹, Susanne Wingert², Christian Breunig⁵, Sheena Pinto⁵, Jacopo Fontana³, Joachim Koch⁵ and Björn Önfelt²

1. Department of Applied Physics, Science for Life Laboratory, KTH Royal Institute of Technology, Stockholm, Sweden
2. Affimed GmbH, Heidelberg, Germany
3. Department of Medicine Huddinge, Karolinska Institutet, Stockholm, Sweden

INTRODUCTION

Antibody-dependent cellular cytotoxicity (ADCC) is a powerful mechanism of innate immunity against pathogens and tumor cells. ADCC is mediated by activation of NK cells and, to a lesser extent, γδ-T cells. ADCC employs a cell-surface receptor FcγRIIIA (CD16) to mediate ADCC, which is inhibited by shedding of CD16. However, previous results have shown that genetic engineering of the shedding site of CD16 (CD16-Ashedding site) blocked repetitive targeting of tumor cells and serial killing of immunoconjugates containing a FcγRIIIA (CD16) moiety.

In the current study, we have investigated whether ICE shedding inhibitor Batimastat induced tumor dependent NK cell death and sheding inhibitor Batimastat induced tumor dependent NK cell death and sheding inhibitor Batimastat induced tumor dependent NK cell death and sheding inhibitor Batimastat induced tumor dependent NK cell death and sheding inhibitor Batimastat induced tumor dependent NK cell death and sheding inhibitor Batimastat induced tumor dependent NK cell death and sheding inhibitor Batimastat induced tumor dependent NK cell death...