

ADCC Bioassay Effector Cell F variant (Low Affinity)- Fc γ -NFAT/Jurkat

CBP74002

Contents

I. Background.....	1
II. Description.....	2
III. Introduction.....	2
IV. Description of Host Cell Line.....	3
V. Representative Data.....	3



ADCC Bioassay Effector Cell F variant (Low Affinity)- Fc γ -NFAT/Jurkat CBP74002

I. Background

Antibody-dependent cell-mediated cytotoxicity (ADCC) is an immune defense mechanism involving an effector cell lysing a target cell on which antibodies have bound to specific antigens on the target cell membrane.

The typical ADCC involves activation of natural killer (NK) cells by antibodies. NK cells express Fc receptors, mostly CD16 or Fc γ RIIIa (CD16a), on its cell surface. These Fc receptors recognize and bind to the Fc portion of an antibody, such as IgG, which has bound to the surface of a pathogen-infected target cell. Once the Fc receptor binds to the Fc region of IgG, the Natural Killer cell releases cytokines such as IFN- γ and cytotoxic molecules that attack the pathogen-infected target cell.

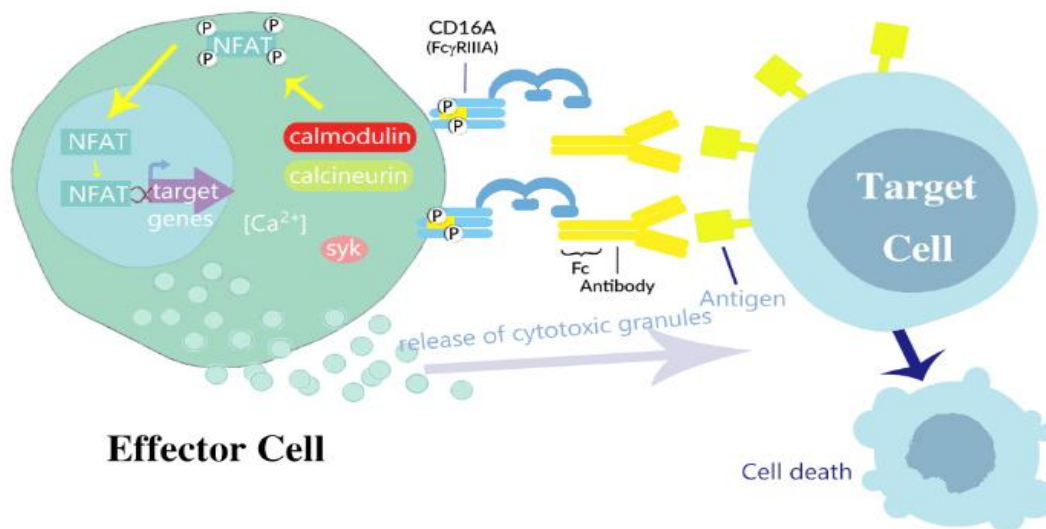
The human Fc γ RIIIa displays a dimorphism in the position of residue 158. One allele (V158) encodes a higher Fc affinity receptor variant with a valine at amino acid residue 158, and the other (F158) encodes a lower Fc affinity receptor variant having a phenylalanine at amino acid residue 158.



II. Description

Recombinant Jurkat T cell expressing firefly luciferase gene under the control of NFAT response elements with constitutive expression of human FcγRIIIa, low affinity (F158) variant and Fcγ chain.

Signaling events upon antibody-dependent cellular cytotoxicity



III. Introduction

Host Cell: Jurkat

Expressed gene: NFAT-Luc-CD16(F158)

Stability: 32 passages (in-house test, that not means the cell line will be instable beyond the passages we tested.)

Synonym(s): Antibody-dependent cell-mediated cytotoxicity

Freeze Medium: 90% FBS+10% DMSO

Culture Medium: RPMI-1640+10%FBS



Mycoplasma Testing: Negative

Storage: Immediately upon receipt, store in liquid nitrogen.

Application(s): Functional(Report Gene) Assay

IV. Description of Host Cell Line

Organism: Homo sapiens, human

Tissue: Peripheral blood

Disease: Acute T cell leukemia

Morphology: Lymphoblast

Growth Properties: Suspension

V. Representative Data

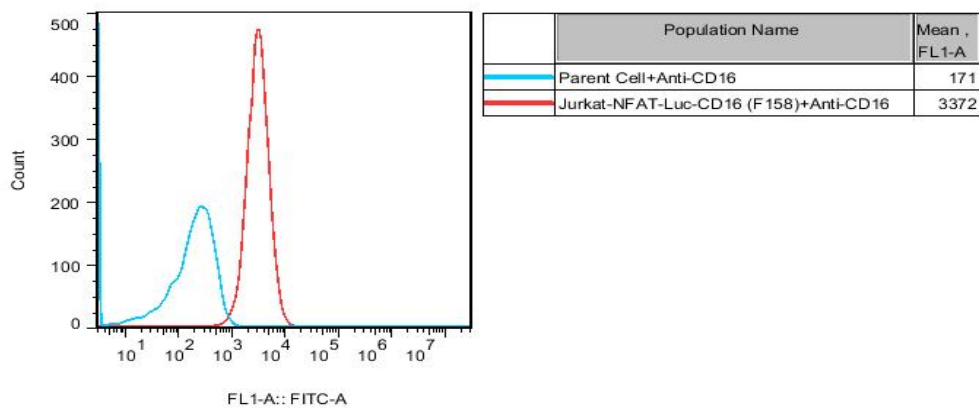
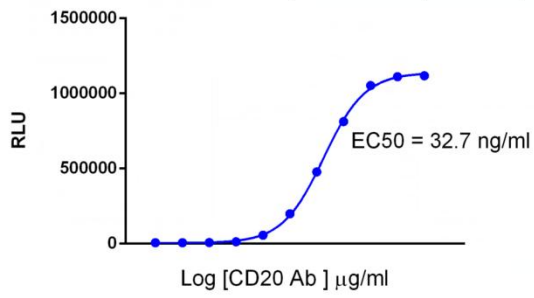


Figure 1. Recombinant Jurkat T cell expressing firefly luciferase gene under the control of NFAT response elements with constitutive expression of human FcγRIIIa, low affinity (F158) variant and Fcγ chain.



Dose response of CD20 Ab in ADCC Bioassay Effector Cell (Low Affinity/NFAT-Jurkat cells)



Assay specifics: E:T ratio = 6:1; Raji cells as target cells;

Figure 2. Dose response of CD20 Ab in ADCC Bioassay Effector Cell (Low Affinity/NFAT-Jurkat cells).

