
xCELLIGENCE SYSTEM IMMUNE CELL KILLING PUBLICATION LIST

RELEVANT DATA, REMARKABLE PUBLICATIONS

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NK CELL MEDIATED CYTOLYSIS

1. [Zhu J](#), [Wang X](#), [Xu X](#), [Abassi YA](#). Dynamic and label-free monitoring of natural killer cell cytotoxic activity using electronic cell sensor arrays. [J Immunol Methods](#). 2006 Feb 20;309(1-2):25-33.
2. [Fregni G](#)¹, [Perier A](#), [Pittari G](#), [Jacobelli S](#), [Sastre X](#), [Gervois N](#), [Allard M](#), [Bercovici N](#), [Avril MF](#), [Caignard A](#). Unique functional status of natural killer cells in metastatic stage IV melanoma patients and its modulation by chemotherapy. [Clin Cancer Res](#). 2011 May 1;17(9):2628-37.
3. [Moodley K](#)¹, [Angel CE](#), [Glass M](#), [Graham ES](#). Real-time profiling of NK cell killing of human astrocytes using xCELLIGENCE technology. [J Neurosci Methods](#). 2011 Sep 15;200(2):173-80.
4. [Perier A](#)¹, [Fregni G](#), [Wittnebel S](#), [Gad S](#), [Allard M](#), [Gervois N](#), [Escudier B](#), [Azzarone B](#), [Caignard A](#). Mutations of the von Hippel-Lindau gene confer increased susceptibility to natural killer cells of clear-cell renal cell carcinoma. [Oncogene](#). 2011 Jun 9;30(23):2622-32.
5. [Park KH](#)¹, [Park H](#), [Kim M](#), [Kim Y](#), [Han K](#), [Oh EJ](#). Evaluation of NK Cell Function by Flowcytometric Measurement and Impedance Based Assay Using Real-Time Cell Electronic Sensing System. [Biomed Res Int](#). 2013;2013:210726
6. [Messaoudene M](#)¹, [Fregni G](#), [Fourmentraux-Neves E](#), [Chanal J](#), [Maubec E](#), [Mazouz-Dorval S](#), [Couturaud B](#), [Girod A](#), [Sastre-Garau X](#), [Albert S](#), [Guédon C](#), [Deschamps L](#), [Mitilian D](#), [Cremer I](#), [Jacquelot N](#), [Rusakiewicz S](#), [Zitvogel L](#), [Avril MF](#), [Caignard A](#). Mature cytotoxic CD56(bright)/CD16(+) natural killer cells can infiltrate lymph nodes adjacent to metastatic melanoma. [Cancer Res](#). 2014 Jan 1;74(1):81-92.
7. [Fregni G](#)¹, [Messaoudene M](#), [Fourmentraux-Neves E](#), [Mazouz-Dorval S](#), [Chanal J](#), [Maubec E](#), [Marinho E](#), [Scheer-Senarich I](#), [Cremer I](#), [Avril MF](#), [Caignard A](#). Phenotypic and functional characteristics of blood natural killer cells from melanoma patients at different clinical stages. [PLoS One](#). 2013 Oct 18;8(10):e76928.
8. [Valencic E](#), [Loganes C](#), [Cesana S](#), [Piscianz E](#), [Gaipa G](#), [Biagi E](#), [Tommasini A](#). Inhibition of mesenchymal stromal cells by pre-activated lymphocytes and their culture media. [Stem Cell Res Ther](#). 2014 Jan 9;5(1):3.

NK cell mediated cytolysis - Adherent Cell Lines Tested:

HT1080, H460, HepG2, MCF-7, A549, HeLa, MDA-MB-231, NIH3T3, MeIC, MeIS, Astrocyte-like cell (NT2A), RCC6, RCC4, Mesenchymal stromal cells (MSCs)

T CELL MEDIATED CYTOLYSIS

1. [Lengagne R¹](#), [Pommier A](#), [Caron J](#), [Douguet L](#), [Garcette M](#), [Kato M](#), [Avril MF](#), [Abastado JP](#), [Bercovici N](#), [Lucas B](#), [Prévost-Blondel A](#). T cells contribute to tumor progression by favoring pro-tumoral properties of intra-tumoral myeloid cells in a mouse model for spontaneous melanoma. [PLoS One](#). 2011;6(5):e20235.
2. [Erskine CL¹](#), [Henle AM](#), [Knutson KL](#). Determining optimal cytotoxic activity of human Her2neu specific CD8 T cells by comparing the Cr51 release assay to the xCELLigence system. [J Vis Exp](#). 2012 Aug 8;(66):e3683.
3. [Henle AM¹](#), [Erskine CL](#), [Benson LM](#), [Clynes R](#), [Knutson KL](#). Enzymatic discovery of a HER-2/neu epitope that generates cross-reactive T cells. [J Immunol](#). 2013 Jan 1;190(1):479-88.
4. [Soto-Pantoja DR¹](#), [Terabe M²](#), [Ghosh A¹](#), [Ridnour LA³](#), [DeGraff WG³](#), [Wink DA³](#), [Berzofsky JA²](#), [Roberts DD⁴](#). CD47 in the tumor microenvironment limits cooperation between antitumor T-cell immunity and radiotherapy. [Cancer Res](#). 2014 Dec 1;74(23):6771-83.
5. [Peper JK¹](#), [Schuster H²](#), [Löffler MW³](#), [Schmid-Horch B⁴](#), [Rammensee HG⁵](#), [Stevanović S⁶](#). An impedance-based cytotoxicity assay for real-time and label-free assessment of T-cell-mediated killing of adherent cells. [J Immunol Methods](#). 2014 Mar;405:192-8.
6. [Nguyen ST¹](#), [Nguyen HL¹](#), [Pham VQ¹](#), [Nguyen GT¹](#), [Tran CD¹](#), [Phan NK²](#), [Pham PV²](#). Targeting specificity of dendritic cells on breast cancer stem cells: in vitro and in vivo evaluations. [Onco Targets Ther](#). 2015 Jan 30;8:323-34.

T cell mediated cytotoxicity - Adherent Target Cell Tested: TIII melanoma, SK-BR3, HCC1419, MCF-7, BT20, 15-12RM target cells, OAW42, HLA-negative NCI-ADR-RES cells, Murine 4T1 mammary gland tumor cells, BCSC (breast cancer stem cell), MSC (Mesenchymal stem cell), BT20, HCC1419

ADCC

1. [Glamann J¹](#), [Hansen AJ](#). Dynamic detection of natural killer cell-mediated cytotoxicity and cell adhesion by electrical impedance measurements. [Assay Drug Dev Technol](#). 2006 Oct;4(5):555-63.
2. [Kute TE¹](#), [Savage L](#), [Stehle JR Jr](#), [Kim-Shapiro JW](#), [Blanks MJ](#), [Wood J](#), [Vaughn JP](#). Breast tumor cells isolated from in vitro resistance to trastuzumab remain sensitive to trastuzumab anti-tumor effects in vivo and to ADCC killing. [Cancer Immunol Immunother](#). 2009 Nov;58(11):1887-96.
3. [Yamashita-Kashima Y¹](#), [Iijima S](#), [Yorozu K](#), [Furugaki K](#), [Kurasawa M](#), [Ohta M](#), [Fujimoto-Ouchi K](#). Pertuzumab in combination with trastuzumab shows significantly enhanced antitumor activity in HER2-positive human gastric cancer xenograft models. [Clin Cancer Res](#). 2011 Aug 1;17(15):5060-70.
4. [Ha S¹](#), [Ou Y](#), [Vlasak J](#), [Li Y](#), [Wang S](#), [Vo K](#), [Du Y](#), [Mach A](#), [Fang Y](#), [Zhang N](#). Isolation and characterization of IgG1 with asymmetrical Fc glycosylation. [Glycobiology](#). 2011 Aug;21(8):1087-96.

5. [Kute T¹](#), [Stehle Jr JR](#), [Ornelles D](#), [Walker N](#), [Delbono O](#), [Vaughn JP](#). Understanding key assay parameters that affect measurements of trastuzumab-mediated ADCC against Her2 positive breast cancer cells. [Oncoimmunology](#). 2012 Sep 1;1(6):810-821.
6. [Obergh HH¹](#), [Peipp M](#), [Kellner C](#), [Sebens S](#), [Krause S](#), [Petrick D](#), [Adam-Klages S](#), [Röcken C](#), [Becker T](#), [Vogel I](#), [Weisner D](#), [Freitag-Wolf S](#), [Gramatzki M](#), [Kabelitz D](#), [Wesch D](#). Novel bispecific antibodies increase $\gamma\delta$ T-cell cytotoxicity against pancreatic cancer cells. [Cancer Res](#). 2014 Mar 1;74(5):1349-60.
7. [Schanzer JM¹](#), [Wartha K²](#), [Croasdale R²](#), [Moser S³](#), [Künkele KP⁴](#), [Ries C²](#), [Scheuer W²](#), [Duerr H⁵](#), [Pompiati S⁵](#), [Pollman J⁵](#), [Stracke J⁵](#), [Lau W⁵](#), [Ries S⁵](#), [Brinkmann U⁵](#), [Klein C³](#), [Umana P³](#). A novel glycoengineered bispecific antibody format for targeted inhibition of epidermal growth factor receptor (EGFR) and insulin-like growth factor receptor type I (IGF-1R) demonstrating unique molecular properties. [J Biol Chem](#). 2014 Jul 4;289(27):18693-706.
8. [Seidel UJ¹](#), [Vogt F²](#), [Grosse-Hovest L³](#), [Jung G²](#), [Handgretinger R⁴](#), [Lang P⁴](#). $\gamma\delta$ T Cell-Mediated Antibody-Dependent Cellular Cytotoxicity with CD19 Antibodies Assessed by an Impedance-Based Label-Free Real-Time Cytotoxicity Assay. [Front Immunol](#). 2014 Dec 2;5:618.
9. [Schmittnaegel M¹](#), [Levitsky V²](#), [Hoffmann E¹](#), [Georges G¹](#), [Mundigl O¹](#), [Klein C²](#), [Knoetgen H³](#). Committing Cytomegalovirus-Specific CD8 T Cells to Eliminate Tumor Cells by Bifunctional Major Histocompatibility Class I Antibody Fusion Molecules. [Cancer Immunol Res](#). 2015 Jul;3(7):764-76.

ADCC – Adherent Target Cell Tested:

MCF-7, A431, BT-474, NCI-N87, SKOV3, PC8, PC9, PC11, PC12, PC13, HD9, HD10, HD11, H322, MCF-7 CD19tm, Colo38, MDA-MB435

GENETICALLY MODIFIED T-CELL MEDIATED CELL KILLING

1. [Chou J¹](#), [Voong LN](#), [Mortales CL](#), [Towlerton AM](#), [Pollack SM](#), [Chen X](#), [Yee C](#), [Robbins PF](#), [Warren EH](#). Epigenetic modulation to enable antigen-specific T-cell therapy of colorectal cancer. [J Immunother](#). 2012 Feb-Mar;35(2):131-41.
2. [Davenport AJ¹](#), [Jenkins MR²](#), [Cross RS³](#), [Yong CS²](#), [Prince HM⁴](#), [Ritchie DS⁵](#), [Trapani JA²](#), [Kershaw MH²](#), [Darcy PK⁶](#), [Neeson PJ⁶](#). CAR-T Cells Inflict Sequential Killing of Multiple Tumor Target Cells. [Cancer Immunol Res](#). 2015 May;3(5):483-94.
3. Everson et al. Adoptive transfer immunotherapy targeting NY-ESO-1 for glioblastoma Neuro-Oncology (In Press)

Genetically Modified T-cell (e.g., CAR-T cell) Mediated cell killing – Adherent Target Cell Tested:

A375, SW480, MC57 and MC57-HER2, U-251MG or 13-06-MG gliomas

MACROPHAGE MEDIATED PHAGOCYTOSIS

1. [Martin-Manso G¹](#), [Galli S](#), [Ridnour LA](#), [Tsokos M](#), [Wink DA](#), [Roberts DD](#). Thrombospondin 1 promotes tumor macrophage recruitment and enhances tumor cell cytotoxicity of differentiated U937 cells. [Cancer Res.](#) 2008 Sep 1;68(17):7090-9.
2. [Cook KL¹](#), [Wärri A¹](#), [Soto-Pantoja DR¹](#), [Clarke PA¹](#), [Cruz MI¹](#), [Zwart A¹](#), [Clarke R²](#). Hydroxychloroquine inhibits autophagy to potentiate antiestrogen responsiveness in ER+ breast cancer. [Clin Cancer Res.](#) 2014 Jun 15;20(12):3222-32.

Macrophage mediated phagocytosis –Adherent Target Cell Tested:

MDA-MB-231, MDA-MB-435, and MCF-7 target cells

COMPLEMENT MEDIATED CYTOLYSIS (CMC)

1. [Ramis G¹](#), [Martínez-Alarcón L](#), [Majado MJ](#), [Quereda JJ](#), [Mendonça L](#), [Herrero-Medrano JM](#), [Abellaneda JM](#), [Ríos A](#), [López-Navas A](#), [Ramírez P](#), [Muñoz A](#). Assessment of in vitro heparin complement regulation capacity during real-time cell analyzer antibody-mediated cytotoxicity assay: compatibility studies for pig-to-baboon xenotransplantation. [Transplant Proc.](#) 2012 Jul-Aug;44(6):1584-8.
2. [Ramis G¹](#), [Martínez-Alarcón L](#), [Majado MJ](#), [Quereda JJ](#), [Mendonça L](#), [Herrero-Medrano JM](#), [Abellaneda JM](#), [Gomes-Coelho K](#), [López-Navas A](#), [Ríos A](#), [Ramírez P](#), [Muñoz A](#). Donor-graft compatibility tests in pig-to-primate xenotransplantation model: serum versus plasma in real-time cell analyzer trials. [Transplant Proc.](#) 2011 Jan-Feb;43(1):249-53.

Complement mediated cytotoxicity (CMC) – Adherent Target Cell Tested

hCD55, hCD59, hCD46 transgenic pig fibroblast