



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

NK2016 Program

October 2

From 11.00 Registration

17.45 **Guido Ferlazzo:** *Welcome and introduction*
 Michael Caligiuri: *Presidential welcome*
 Lorenzo Moretta: *Keynote lecture*

19.00 **Welcome Cocktail**

October 3

Session 1

NK cell development and differentiation

Chair: K. Karre – D. Raulet

8.30 - 8.50 T. Fehniger: *Cytokine-induced NK cell differentiation*

8:50 - 9.10 J. Di Santo: *NK cell developmental pathways*

9.10 - 9.30 J. Orange: *Structuring the intracellular mechanics of NK cell cytotoxicity*

9.30 - 9.50 D. Raulet: *Differentiation and activation of natural killer cells against tumor cells*

9.50 - 10.00 H. Brauner *MHC class I dependent shaping of the NK cell Ly49 receptor repertoire takes place already early during maturation in the bone marrow*

10.00 - 10.10 X. Wang *Epigenetics in NK cell differentiation and function: Ezh2 as an example*

10.10 - 10.20 H. Schlums *Adaptive NK cells can persist in patients with GATA2 mutation*

10.20 - 10.30 C. Dunbar *Clonal expansion and long-term persistence of rhesus macaque NK cells with an adaptive phenotype*

10.30 - 10.40 E. Sitnicka *Identification and characterization of human Natural Killer lineage restricted progenitors*



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10.40 - 11.00 Coffee break

Session 2

NK cell receptors and signalling

Chair: A. Santoni - C. Watzl

11.00 -11.20 D. Davis: *The nanoscale organisation of NK cell receptors controls signaling*

11.20 -11.40 P. Parham: *Population genomics of NK cell receptors*

11.40 -12.00 V. Sexl: *JAK—STAT for the better or worse in NK cell biology*

12.00 -12.20 J. Trowsdale: *Recombination and imputation of KIR*

12.20 -12.30 A. Marçais *Control of NK cell education by the mTOR pathway*

12.30 -12.40 R. Molfetta *PVR expression is regulated by the SUMO pathway on multiple myeloma cells*

12.40 -12.50 Q. Hammer *Adaptive NKG2C⁺ NK cells display antigen specificity for HCMV strains*

12.50 -13.00 M. Anft *The regulation of NK cell detachment from target cells as a key factor for serial killing and effector function*

13.00 -13.10 S. Rajagopalan *Zinc induced polymerization of killer- cell Ig-like receptor into filaments promotes its inhibitory function at NK immunological synapses*

13.10 -15.00 Lunch

Session3

NK cell activation and memory

Chair: H.G. Ljunggren - E. Long

15.00 -15.20 N. Guerra: *The paradoxical role of NKG2D in cancer and immunity*

15.20 -15.40 A. Veillette: *Receptors controlling NK cell functions*



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

- 15.40 -16.00 W. Yokohama: *Mobilization of tissue-resident NK cells*
- 16.00 – 16.20 Coffee break
- 16.20 -16.30 J. Van Den Boorn *Inflammasome-dependent induction of adaptive NK cell memory*
- 16.30 -16.40 O. Rasid *Post-endotoxemia NK cells acquire memory-like and memory properties sequentially under control of a suppressive environment*
- 16.40 -16.50 J. Grahler *Effector Function and Metabolism of Cytokine-Induced Memory-Like NK Cells*
- 16.50 -17.00 F. Cichocki *Unique metabolic attributes of adaptive NK cells*
- 17.00 -17.10 M. R. Goodier *Induction of cytokine-driven memory-like NK cells by Influenza vaccination*
- 17.10 -20.00 Leisure time
- 20.00 **POSTER SESSION** with **Sicilian dinner buffet**

NK cell development and differentiation / NK cell receptors and signalling
NK cell activation and memory/ Innate lymphocyte compartments and interactions with other leukocytes/ Tissue-associated NK cell subsets and NK cells in pregnancy/ Innate Lymphoid Cells

October 4

Session 4

Innate lymphocyte compartments and interactions with other leukocytes

Chair: G. Ferlazzo – E. Ullrich

- 8.30 -8.50 M. Colonna: *Tissue resident ILC and NK cells*
- 8.50 -9.10 S. Ugolini: *NK cell homeostasis: What Else?*
- 9.10 -9.30 D. Littman: *Role of ILCs in integration of T cell responses*
- 9.30 -9.50 E. Vivier: *Complementarity and redundancy of ILCs*



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SOCIETY FOR NATURAL IMMUNITY

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- 9.50 -10.00 R. Meazza *Inhibitory 2B4 contributes to NK-cell education in patients with X-linked lymphoproliferative disease 1 (XLP1)*
- 10.00 -10.10 G. Gasteiger *Generation and regeneration of tissue resident innate lymphoid cells and NK cells*
- 10.10 -10.20 S. Campana *Human BDCA1⁺ dendritic cells are potent activator of tonsillar ILC3*
- 10.20 -10.30 R. Jacobs *Human 6-sulfo LacNAc dendritic cell (slanDC)-derived IL-1 β limits NK cell stimulation via induction of PGE2 and up-regulation of CD95-induced NK cell apoptosis*
- 10.30 -10.40 S. Boulouvar *Specialized subsets of NK cells enriched in adipose tissue regulate macrophage homeostasis through targeted cytotoxicity*
- 10.40 -11.00 Coffee break

Session 5

NK cells and virus infection

Chair: C.A. Biron – S. Jonjic

- 11.00 -11.20 M. Carrington: *Genetic interactions between KIR and HLA in viral disease*
- 11.20 -11.40 M. Degli-Esposti: *Tissue specific NK cell responses to viral infection*
- 11.40 -12.00 C. Münz: *NK cell mediated immune control of a human tumor virus in vivo*
- 12.00 -12.20 J. Sun: *Transcriptional control of anti-viral NK cells*
- 12.20 -12.30 M. Lopez-Botet *Adaptive NKG2C⁺ NK cells and the risk of cytomegalovirus infection in kidney transplant recipients*
- 12.30 -12.40 J. Zeleznjak *It takes two to evade missing-self: a game of cat and mouse between Ly49 receptors and MCMV encoded immunoevasins*
- 12.40 -12.50 M. Uhrberg *Influence of KIR polymorphism on HCMV-driven expansions of NKG2C⁺ NK cells*



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

- 12.50 -13.00 O. A. Aguilar *The mouse cytomegalovirus m12 glycoprotein controls innate immune recognition by direct engagement of the NKR-P1B and NKR-P1C (NK1.1) receptors*
- 13.00 -13.10 A. Hoelzemer *Binding of KIR3DS1 to HLA-F open conformers leads to activation of KIR3DS1+ NK cells*
- 13.10 -15.00 Lunch

Session 6

Tissue-associated NK cell subsets and NK cells in pregnancy

Chair: M. Mingari – A. Moffett

- 15.00-15.20 N. Jabrane-Ferrat: *Local environment shapes NK cell plasticity and functions*
- 15.20-15.40 M. Caligiuri: *Human NK cell development in secondary lymphoid tissue*
- 15.40-16.00 F. Colucci: *Maternal NK cell recognition of the placenta determines reproductive outcome*
- 16.00-16.20 B. Polic : *The role of NKG2D in development and education of NK cells*
- 16.20 – 16.30 M. Cornillet *Spatiotemporal dynamics of the human intrahepatic immune system during liver regeneration*
- 16.30 – 16.40 S. Lunemann *Hobit expression defines a subset of tissue-resident CD56^{bright} NK cells in the human liver*
- 16.40 – 16.50 K. Stegmann *CXCR6 marks a novel subset of T-bet^{lo} Eomes^{hi} natural killer cells residing in human liver*
- 16.50 – 17.00 J. Kieckbusch *Maternal natural killer cells require education but do not reject 'missing-self' fetuses*
- 17.00 – 17.10 C. Harmon *Tissue resident Eomes^{hi} Tbet^{lo} CXCR6⁺CD56^{bright} natural killer cells are depleted from metastatic liver tumours.*
- 17.10 – 17.30 Coffee break

17.30-20.00

POSTER SESSION

NK cells and virus infection/ NK cells and cancer/ Clinical applications of NK cells



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
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20.30 Sicilian Dinner Buffet
22.00 Music and Drink

October 5

Session 7

NK cells and cancer

Chair : M. Lopez-Botet - A. Moretta

- 8.30 -8.50 E. Carbone: *New opportunity in melanoma: NK cells*
- 8.50 - 9.10 A. Cerwenka: *NK cell receptors in tumor immunity*
- 9.10 - 9.30 J. Djeu : *Natural Killer Cells and the tumor microenvironment*
- 9.30 - 9.50 K.J. Malmberg: *A Newtonian view on NK cell education*
- 9.50 -10.00 S. Pesce *Identification of a subset of human natural killer cells expressing high levels of programmed death 1: A phenotypic and functional characterization*
- 10.00 -10.10 Z. Tian *TIGIT blockade prevents NK cell exhaustion and elicits potent anti-tumor immunity*
- 10.10 -10.20 C. Barberi *The abundant natural killer cells in multiple myeloma patients are enriched in proliferating CD56^{dim}CD94^{low} highly cytotoxic NK cell subset*
- 10.20 -10.30 C. Zhang *Targeted NK Cells Display Potent Activity Against Glioblastoma and Induce Protective Antitumor Immunity*
- 10.30 -10.40 N. Huntington *CIS is a potent checkpoint in NK cell-mediated tumor immunity*
- 10.40 -11.00 Coffee break

Session 8

Clinical applications of NK cells

Chair: A. Velardi – E. Carbone

- 11.00 -11.20 K.C. Hsu: *Maximizing NK function for tumor control in vivo*
- 11.20 -11.40 F. Locatelli: *NK and gamma/delta T cells: the key players in haploidentical hematopoietic stem cell transplantation*



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

- 11.40 -12.00 H. Klingemann/L. Boissel :
Using unmodified and engineered Natural killer cell lines in cancer treatment
- 12.00 -12.20 J. Miller:
Novel ways to activate NK cells and make them antigen specific
- 12.20 -12.30 H. Dolstra
Adoptive transfer of CD34-derived natural killer cells is feasible, well tolerated and induces measurable anti-leukemic effects in the bone marrow of elderly acute myeloid leukemia patients
- 12.30 -12.40 A. Björklund
Complete remission and immunoediting following haploidentical NK cell therapy in chemotherapy refractory acute myeloid leukemia and myelodysplastic syndrome
- 12.40 -12.50 M. Felices
Combinational therapy with IL-15 super-agonist (ALT-803) and PD-1 blockade enhances human NK cell immunotherapy against ovarian cancer
- 12.50 -13.00 M. Berrien-Elliott
Human cytokine-induced memory-like NK cells expand in patients with AML and display enhanced anti-leukemia responses.
- 13.00 -15.00 Lunch

Session 9

Innate Lymphoid Cells

Chair: C. Romagnani - E.Vivier

- 15.00 -15.20 A. Diefenbach: *Transcriptional control of ILC fate decisions.*
- 15.20 -15.40 G. Belz : *ILC3 Diversity, Complementarity and Regulation*
- 15.40 -16.00 G. Sciumè: *Developmental acquisition of regulomes underlies ILC functionality*
- 16.00 -16.20 H. Spits: *Development and plasticity of human Innate Lymphoid Cells*
- 16.20 -16.30 S. Taveirne
Ets-1 is a critical regulator of human natural killer cell and ILC3 development



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

- 16.30 -16.40 B. Kramer *Characterization of innate lymphoid cells (ILCs) in the human gastrointestinal tract demonstrates compartment-specific ILC distribution which is markedly altered in HIV infection*
- 16.40 -16.50 A. Raykova *Plasticity of group 3 innate lymphoid cells*
- 16.50 -17.00 L. Brossay *Role of SHP-2 in T cell, NK cell and ILC3 development and functions*
- 17.00 -17.100 V.S. Cortez *Transforming growth factor- β guides the differentiation of Group 1 innate lymphoid cells in salivary glands*
- 17.10 -17.30 Concluding remarks and invitation to the next NK meeting.

October 3 Alcantara Room 20.00 – 22.30

NK cell development and differentiation

1 - Ly49 Pro1 activity is associated with gene activation, not gene expression: Pro1 transcripts are not present in most mature Ly49-expressing NK cells.

Stephen K. Anderson et al.

Cancer and Inflammation Program, CCR, NCI, Frederick USA

2 - Cell-extrinsic MHC class I molecule engagement augments human NK cell education programmed by cell-intrinsic MHC class I

Jeanette E. Boudreau et al.

Sloan Kettering Institute, Memorial Sloan Kettering Cancer Center, New York, USA

3 - Partial break in tolerance by single KIR mismatched NK cells in hematopoietic cell transplantation

Paul Fisch et al.

University Medical Center Freiburg, Freiburg, Germany

4 - NK cell Receptor Inhibition Determines NK Cell Cytolytic Potential Through Accumulated Granular Load.

Jode Goodridge et al.

The KG Jebsen Center for Cancer Immunotherapy, Institute of Clinical Medicine, University of Oslo, Norway

5 - Mapping the regulatory circuitry distinguishing canonical and adaptive human NK cells

Tim D. Holmes et al.

Centre for Hematology and Regenerative Medicine, Department of Medicine, Karolinska Institutet, Karolinska University Hospital Huddinge, Stockholm, Sweden



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

6 - The transcription factor PLZF is recruited by co-factors to regulate gene expression in NK cells

Hongya Han et al.

Center for Hematology and Regenerative Medicine, Department of Medicine, Karolinska Institutet, Karolinska University Hospital Huddinge, Stockholm, Sweden

7 - IRF8 IS A NOVEL REGULATOR OF HUMAN NK CELL MATURATION

Emily M. Mace et al.

Center for Human Immunobiology, Baylor College of Medicine and Texas Children's Hospital, Houston, TX, USA

8 - omissis

9 - Cell-extrinsic STAT1 isoform-specific functions regulate NK cell maturation

Katrin Meissl et al.

Institute of Animal Breeding and Genetics, University of Veterinary Medicine Vienna

10 - Interleukin-12 bypasses common gamma-chain signaling in emergency NK lymphopoiesis

Isabel Ohs et al

Inflammation Research, Institute of Experimental Immunology, University of Zurich, Zurich, Switzerland

11 - The interplay between SDF-1 and interleukin-15 potentiates the transition to CD11b^{high}CD27^{high} mature NK cells by regulating PI3K-induced mTOR signaling pathway

Alessandra Porzia et al.

Department of Molecular Medicine, Istituto Pasteur-Fondazione Cenci Bolognetti, Sapienza University of Rome, Italy

12 - The newborn human NK cell repertoire is phenotypically formed but functionally deficient

Thanmayi Ranganath et al.

Stanford Immunology, Stanford University School of Medicine, Stanford, CA, USA

13 - New insights on Natural Killer cell repertoire from a thorough analysis of cord blood cells

Christelle Retière et al.

Etablissement Français du Sang, Université de Nantes, Immunovirologie et Polymorphisme Génétique., Nantes, France

14 - A novel gene linked to NK cell deficiency and myelodysplastic syndrome

Matthias Voss et al.

Centre for Hematology and Regenerative Medicine, Karolinska Institutet, Department of Medicine Huddinge, Stockholm, Sweden

15 - Expression of DNAM-1 (CD226) is associated with education status of NK cells

Arnika K. Wagner et al.

Department of Microbiology, Tumor and Cell Biology, Karolinska Institutet, Stockholm, Sweden.

16 - CHARACTERIZATION OF MICE WITH AN IMPAIRED MISSING-SELF REACTIVITY DISPIE NORMAL MATURATION AND MHC CLASS I-DEPENDENT EDUCATION

Stina Wickström et al.

Karolinska Institutet, Dept of Microbiology, Tumor and Cell Biology, Stockholm



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

17 - Tracking of human NK cells via acquired somatic mutations reveals long-term self-renewal of human adaptive NK cells or NK progenitors independent of multi-lineage HSC

Thomas Winkler et al.

Hematology Branch; National Heart, Lung and Blood Institute; National Institutes of Health, Bethesda, USA

18 - Different developmental pattern of CD56^{bright} and CD56^{dim} antigen expression suggests distinct mechanisms to prevent NK cell-mediated auto-aggression during their differentiation.

Loris Zamai et al.

Department of Biomolecular Sciences DiSB, University of Urbino "Carlo Bo", Italy

NK cell receptors and signalling

19 - The activating receptor NKG2D regulates cytokine expression in Th1 cells

Marina Babic Cac et al.

Innate immunity German Rheumatism Research Centre-a Leibniz Institute, Charitéplatz 1, Berlin, Germany

20 - Cytokines induce faster membrane diffusion of MHC class I and the Ly49A receptor in a subpopulation of Natural Killer cells

Sunitha Bagawath-Singh et al.

Department of Microbiology, Tumor and Cell Biology, Karolinska Institutet, Stockholm, Sweden

21 - Recognition of the MHC class Ib molecule H2-Q10 by the natural killer cell receptor Ly49C

Richard Berry et al.

Infection and Immunity Program and Department of Biochemistry and Molecular Biology, Biomedicine Discovery Institute, Monash University, Clayton, Victoria, Australia

22 - Interferon lambda 3 (IFN-λ3) enhances NK cell cytotoxicity against tumor cell lines

Marc B. Bigler et al.

Translational Immunology, Dep. of Biomedicine, University Hospital Basel, Switzerland

23 - Cytotoxicity and killing kinetics of KIR-educated NK cells

Ludwig Brandt et al.

Department of Applied Physics, Science for Life Laboratory, KTH Royal Institute of Technology, Stockholm, Sweden.

24 - Extensive Killer Immunoglobulin-like Receptor (KIR) gene polymorphisms in rhesus macaques

Jesse Bruynesteyn et al.

Biomedical Primate Research Centre, Department of Comparative Genetics & Refinement, Rijswijk, The Netherlands

25 - Identification of HLA/peptide complexes binding to the activating NK cell receptor KIR2DS1

Anais Chapel et al.

Heinrich-Pette-Institut, Leibniz Institute for Experimental Virology, Hamburg, Germany

26 - Cognate HLA absence in trans diminishes human NK cell education

Obinna Chijioke et al.

Viral Immunobiology, Institute of Experimental Immunology, University of Zürich, Switzerland



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

27 - Inhibition of natural killer cell cytotoxicity by interleukin-6: implications for the pathogenesis of macrophage activation syndrome.

Loredana Cifaldi et al.

IRCCS Bambino Gesù Children's Hospital, Rome, Italy

28 - IL-15 induces a CD8⁺ T cell molecular reprogramming towards the acquisition of an NK-like phenotype and high anti-tumor potential

Margareta P Correia et al.

Group of Innate Immunity, German Cancer Research Center (DKFZ), Heidelberg, Germany

29 - Dissecting homotypic interactions among activating NK cells using lymphocyte-laden microwells and quantitative fluorescence imaging

Junsang Doh et al.

School of Interdisciplinary Bioscience and Bioengineering, Pohang University of Science and Technology, Republic of Korea

30 - NKp46 Expression Discriminates Human and Canine NK Cell Subsets with Distinct Phenotypic and Functional Properties

Jennifer A. Foltz et al.

Graduate School of Biomedical Sciences, Health Science Center, The University of Texas, Houston, Texas, United States of America

31 - Microbially cleaved immunoglobulins are sensed by the innate immune receptor LILRA2

Kohyuki Hirayasu et al.

Lab. of Immunochemistry, WPI Immunology Frontier Research Center, Osaka Univ., Osaka, Japan

32 - KIR3DL1*004 in the presence of HLA Bw4 is protective in Parkinson's Disease

Jill A. Hollenbach et al.

Department of Neurology, University of California, San Francisco

33 - NKG2D sets thresholds for specific activating receptors early in NK cell-development

Vedrana Jelenčić et al.

Department of Histology and Embryology, School of Medicine, University of Rijeka, Croatia

34 - Super resolution imaging reveals altered nano-scale distribution of NKp46 and KIR on educated human NK cells

Sofia Johansson et al.

Department of Microbiology, Tumor-, and Cell biology, Karolinska Institutet, Stockholm, Sweden.

35 - RECOGNITION OF PATHOGENIC FLAVIVIRUSES BY KIR2DS2

Salim I Khakoo et al.

University of Southampton, Southampton, UK

36 - Necrosis, apoptosis and mixed forms of NK-mediated target cell death

Carsten Kummerow et al.

Department of Biophysics, Center for Integrative Physiology and Molecular Medicine (CIPMM), School of Medicine, Saarland University, Homburg, Germany



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

37 - Phenotyping study of KIR2DL alleles, genotyped with a new allelic PCR based method

Jean-Benoit Le Luduec et al.

Immunology Program, Sloan Kettering Institute, Memorial Sloan Kettering Cancer Center, New York, NY, USA

38 - Tuning of NK cell responsiveness: HLA-C promoter activity is modulated by allelic variation in several key transcription factor-binding sites

Hongchuan Li et al.

Cancer and Inflammation Program, CCR, NCI, Frederick, MD, USA.

39 - Siglec-7 expression identifies an hyperfunctional NK cell population

Dalila Mele et al.

Research Laboratories, Department of Infectious Diseases, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy

40 - Interleukin-1 receptor 8 (IL-1R8) plays a crucial role in Natural Killer cell differentiation and function

Martina Molgora et al.

Humanitas Clinical and Research Center, Rozzano (Milano), Italy

41 - High diversity of human KIR revealed using high-throughput sequencing

Paul J. Norman et al.

Departments of Structural Biology and Microbiology & Immunology, Stanford University School of Medicine, Stanford, CA, USA.

42 - Therapeutic IgG induce different phenotypic and functional changes in human NK cells *in vitro* and *ex vivo*

Maria Papaserafeim et al.

Division of Immunology and Allergology, Department of Medical Specialties, University Hospital and Medical Faculty, Geneva, Switzerland

43 - Interaction of the LILRB1 inhibitory receptor with HLA class Ia dimers

Jordi [Pou](#) et al.

Hospital del Mar Medical Research Institute (IMIM), Barcelona, Spain.

44 - A License to Kill: Understanding Natural Killer Cell Licensing to Fight Cancer

Jolie Schafer et al.

Graduate School of Biomedical Sciences, Health Science Center, The University of Texas, Houston, Texas, USA

45 - The ADAP/SKAPP55 complex in primary NK cells

Maxi Heyner et al.

Cellular Proteomics Group, Helmholtz Centre for Infection Research, Braunschweig

46 - Differential expression of miRNA lead to differential *ex vivo* expansion of Natural Killer cells with membrane bound IL15 and IL21

Anitha Somanchi et al.

University of Texas Houston, Graduate School of Biomedical Sciences, Houston, TX, USA



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

47 - Aryl-hydrocarbon receptor-dependent NK cell activation

Ana Stojanovic et al.

Innate Immunity Group, German Cancer Research Center (DKFZ), Heidelberg, Germany

48 - Characterization of a spontaneous gene mutation leading to the loss of NKp46 protein expression and reduced NK cell maturation in mice

Sara Tognarelli et al.

Johann Wolfgang Goethe University Hospital, Childrens Hospital, Department of Pediatric Stem Cell Transplantation and Immunology, Frankfurt am Main, Germany

49 - LFA-1 activation in Natural Killer cells and their subsets – influence of education, maturation and cytokine stimulation

Doris Urlaub et al.

Department of Immunology, Leibniz Research Centre for Working Environment and Human Factors at TU Dortmund - IfADO, Dortmund, Germany

50 - TNFAIP3/A20 is a critical regulator of NK cell activation and homeostasis.

Jessica Vettters et al.

Inflammation Research Center, VIB, Ghent, Belgium

51 - MicroRNA-146a Plays a Negative Feedback Role in IFN- γ Production by Human NK Cells via Targeting IRAK1 and TRAF6 of the NF- κ B Signaling Pathway

Jianhua Yu et al.

The Ohio State University Comprehensive Cancer Center, Columbus, OH, USA

52 - Endosulfan decreases cytotoxicity of NKL cells and expression of activation receptors

Galina Zaitseva et al.

Universidad de Guadalajara CUCBA-CUCS, Guadalajara, Mexico.

53 - A disease-linked *ULBP6* polymorphism modulates NKG2D-mediated cytotoxicity by creating ultra-stable NKG2D receptor/ligand interaction

Jianmin Zuo et al.

Institute of Immunology and Immunotherapy, University of Birmingham, Vincent Drive, Edgbaston, Birmingham, UK

53.1 Deletion of *Slam* locus in mice reveals inhibitory role of SLAM family in NK cell responses regulated by cytokines and LFA-1

Huaijian Guo

Laboratory of Molecular Oncology, Institut de recherches cliniques de Montréal, Montréal, Québec H2W 1R7, Canada

53.2 Hematopoietic cell-driven mechanism involving SLAMF6 receptor, SAP adaptors and SHP-1 phosphatase regulates NK cell education

Ning Wu

Laboratory of Molecular Oncology, Institut de recherches cliniques de Montréal (IRCM), Montréal, Québec, Canada



16th Meeting of the
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NK cell activation and memory

54 - ASSESSMENT OF NK CELL FUNCTION IN PATIENTS WITH SICKLE CELL DISEASE

Allistar Abraham et al

Children's National Health System, Washington, DC

55 - Intrinsic enhancement of NK cell IFN- γ responsiveness to cytokines after trivalent influenza and tetravalent DTPiP vaccination in HCMV-infected Africans (Gambians)

Alansana Darboe et al.

MRC ING, MRC Keneba, Medical Research Council Unit, Fajara, The Gambia.

56 - Sterol response element binding proteins (Srebp); essential regulators of Natural Killer cell metabolism and function.

David K. Finlay et al.

School of Biochemistry and Immunology and School of Pharmacy and Pharmaceutical Sciences, Trinity Biomedical Sciences Institute, Trinity College Dublin, Ireland.

57 - MicroRNA-21 is a critical regulator of the anti-viral NK cell response

Clair Geary et al.

Immunology Program, Memorial Sloan Kettering Cancer Center, New York, NY

58 - NK cell regulation of late infection stage CD8 T cells promotes immune exhaustion and chronic *Toxoplasma gondii* infection.

Jason P. Gigley et al.

Department of Molecular Biology, University of Wyoming, Laramie, WY, USA

59 - NK cell characterization in patients with Systemic Lupus Erythematosus: increased frequency of Ki67+ NK cells associated with disease activity and type I interferon signature

Kelly Hudspeth et al.

Immunoregulation Section, Autoimmunity Branch National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), NIH, Bethesda, Maryland, USA

60 - Clone generation in subsets of NK cells at different maturation stages using stimulation with IL-2 and modified K562 feeder cells

Elena Kovalenko et al.

Shemyakin & Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow, Russian Federation

61 - Antibody-dependent memory-like NK cells in non-human primates

Jaewon Lee et al.

Graduate Group of Immunology, Center for Comparative Medicine, University of California, Davis, Davis, CA USA

62 - Sustained calcium influx is associated with enhanced functional activity of human memory-like NK cells

Tae Hyung Lee et al.

Center for Comparative Medicine, University of California, Davis, Davis, CA, USA



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

63 - Chromatin state dynamics during NK cell activation

Yang Li et al.

Department of Cell Biology Tianjin Medical University, Tianjin, China.

64 - Antibody-dependent NK cell control of *Plasmodium falciparum* infection

Eric Long et al.

Laboratory of Immunogenetics, NIAID, NIH, Rockville, Maryland, USA

65 - Glycolytic inhibition *in vivo* leads to NK cell dysfunction and MCMV susceptibility

Annelise Y. Mah et al.

Department of Pediatrics, Washington University, St. Louis, MO, USA

66 - Amino acid at position 7 (p7) of HLA-C*0304 defines a peptide antagonist for KIR2DL2/L3 NK cells

Berenice Mbiribindi et al.

University of Southampton – Faculty of Medicine, Southampton, UK

67 - The contribution of NK cells to vaccine induced protection against influenza

Jason Mooney et al.

London School of Hygiene & Tropical Medicine, London UK

68 - NK cell Activation by the bispecific CD30/CD16A TandAb AFM13 substantially enhances NK cell effector functions and proliferation

Jens Pahl et al.

Innate Immunity, German Cancer Research Center, Heidelberg, Germany

69 - Integrin-mediated regulation of NK cell motility and function during *Toxoplasma gondii* infection

Laetitia Petit-Jentreau et al.

Department of Infection Biology, Institute of Infection and global Health, University of Liverpool, Liverpool, UK.

70 - Phenotype and function of Fc γ RI α -negative NK cells in chronic HCV infection

Barbara Rehermann et al.

Immunology Section National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, DHHS, Bethesda, MD, USA

71 - The functional consequences of physical interactions between human Natural Killer cells and *Plasmodium falciparum*-infected erythrocytes

Samuel Sherratt et al.

Department of Immunology and Infection, London School of Hygiene and Tropical Medicine, London, UK.

72 - Role of PRDX1 in functioning of NK cells

Marta Siernicka et al.

Department of Immunology, Centre for Biostructure Research, Medical University of Warsaw, Warsaw, Poland

73 - CD56^{bright} and CD56^{dim} NK cells respond to a TLR-2 stimulating Herpes Simplex Virus (HSV) lipopeptide, a potential vaccine candidate

Naomi R. Truong et al.

The Westmead Institute for Medical Research, Westmead, New South Wales, Australia



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

74 - Cytokine induced changes in natural killer cell phenotype and function

Elena Vendrame et al.

Departments of Medicine, Statistics, and Immunology, Stanford University, Stanford CA, USA

75 - Early Natural Killer Cell Responses Following Influenza Vaccination

Helen Wagstaffe et al.

Department of Immunology and Infection London School of Hygiene and Tropical Medicine, London, UK.

76 - NK cell metabolism is differentially regulated in CD56^{bright} and CD56^{dim} subsets

Vanessa Zaiatz-Bittencourt et al.

School of Biochemistry and Immunology, Trinity Biomedical Sciences Institute, Trinity College Dublin, Ireland

Innate lymphocyte compartments and interactions with other leukocytes

77 - Interplay of innate and adaptive immunity in autoimmune diabetes in mice and man

Allison L. Bayer et al.

Department of Microbiology and Immunology University of Miami Miller School of Medicine, Miami, Florida

78 - Neutrophil expression of B7-H6 and HLA – implications on interactions between NK cells and neutrophils in inflammation

Karin Christenson et al.

TIMM Laboratory, Sahlgrenska Cancer Center University of Gothenburg, Sweden

79 - NK cells regulate pathogenesis of CMV in the ovary

Vanda Juranic Lisnic et al.

Department for Histology and embryology and Center for proteomics, Faculty of Medicine, University of Rijeka, Croatia

80 - NKG2D promoter B1a cell development and enhances protection against bacterial infections

Maja Lenartić et al.

Department of Histology and Embryology, Faculty of Medicine, University of Rijeka, Rijeka, Croatia

Tissue-associated NK cell subsets and NK cells in pregnancy

81 - Hypothalamic brain-derived neurotrophic factor regulates NK cell homeostasis in adipose tissue

Stephen M Bergin et al.

Comprehensive Cancer Center The Ohio State University, Columbus, Ohio

82 - Human atherosclerotic plaque contains macrophages expressing ligands for NK cell activating receptors and is infiltrated by specific subsets of NK cells

Irene Bonaccorsi et al.

Laboratory of Immunology and Biotherapy, Dept. Human Pathology, University of Messina, Italy

83 - NK Cells in the Lung

Grace E Cooper et al.

Academic Unit of Clinical and Experimental Sciences, University of Southampton Faculty of Medicine, Southampton, UK



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

84 - Using multicolour Flow Cytometry to discriminate between KIR2DL1 allele specific NK subsets

Oisín Huhn et al.

Department of Pathology, and Centre for Trophoblast Research, University of Cambridge, UK

85 - A comparison of CD49a+ and CXCR6+ Natural Killer cell populations in the human liver reveals distinct phenotypes suggestive of NK cell memory and migration

Theresa Hydes et al.

University of Southampton, Southampton, UK

86 - Endolysosomal organisation of granules in human decidual NK cells

Martin A Ivarsson et al.

Department of Pathology, and Centre for Trophoblast Research, University of Cambridge, UK

87 - Tonsillar and peripheral blood Natural Killer cell subsets against life-long persisting human viruses

Anna Lünemann et al

Children's Research Center, Experimental Infectious Diseases and Cancer Research, University Children's Hospital, Zurich, Switzerland

88 - Human Lung NK Cells are Predominantly Comprised of Highly Differentiated Hypofunctional CD69-CD56^{dim} Cells

Nicole Marquardt et al.

Center for Infectious Medicine, Department of Medicine, Karolinska Institutet, Karolinska University Hospital, Stockholm, Sweden

89 - Phenotypical characterization of human liver-resident NK cells"

Gloria Martrus et al.

Heinrich-Pette Institute, Leibniz Institute for Experimental Virology, Hamburg, Germany

90 - Tissue-resident NK cells in lymphoid tissues are characterized by CD69 and CXCR6 expression

Janine E. Melsen et al.

Department of Pediatrics, Leiden University Medical Center, Leiden, the Netherlands;

91 - Fetal CD103⁺ IL-17-producing ILC3s represent the dominant lymphocyte subset in human amniotic fluid.

Jakob Michaëlsson et al.

Center for Infectious Medicine, Department of Medicine, Karolinska Institutet, Stockholm, Sweden

92 - Characterization of NK cells in patients with nonalcoholic steatohepatitis

Natalie Stiglund et al.

Center for Infectious Medicine, Karolinska Institutet, Stockholm, Sweden

93 - Longitudinal assessment of uterine NK cell KIR repertoire formation throughout the menstrual cycle

Benedikt Strunz et al.

CIM, Department of Medicine Huddinge, Karolinska Institutet, Stockholm, Sweden.



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

Innate Lymphoid Cells

94 - Characterization of thymic Group 1 ILCs

Sara Gabrielli et al.

Department of Biomolecular Sciences (DiSB), University of Urbino "Carlo Bo", Urbino Italy

95 - Differentiation of human innate lymphoid cells (ILC)

Kerstin Juelke et al.

Innate Immunity, Deutsches Rheuma Forschungszentrum (DRFZ) Berlin, Leibniz-Gemeinschaft, Berlin, Germany

96 - ID2 is required for binding of BATF/AP-1-related family transcription factors to genes associated with NK cell effector maturation

Barbara L. Kee et al.

Dept. of Pathology and Committee on Immunology, University of Chicago, Chicago IL USA,

97 - The role of transcription factor Runx2 in NK cell and ILC development and function

Sigrid Wahlen et al

Ghent University, Belgium

October 4 Alcantara Room 17.30 – 20.00

NK cells and virus infection

1 - STAT4-dependent IRF8 induction regulates virus-specific natural killer cell expansion

Nicholas M. Adams et al.

Immunology Program, Memorial Sloan Kettering Cancer Center, New York, NY

2 - A conserved HIV-1-derived peptide presented by HLA-E renders infected T-cells highly susceptible to attack by NKG2A/CD94-bearing natural killer cells

Edward Barker et al.

Department of Immunology/Microbiology, Rush University Medical Center, Chicago, IL USA

3 - Perinatal cytomegalovirus infection drives NK cell hyporesponsiveness characterized by downregulation of T-box transcription factor

Ilija Brizic et al.

Center for proteomics, Faculty of medicine, University of Rijeka, Croatia

4 - The US3 protein kinase of Pseudorabies Virus protects infected cells from NK cell-mediated attack through increased binding of the inhibitory NK cell receptor CD300a

Claudia Cantoni et al.

Gaslini Institute, Genova, Italy

5 - Regulation of T-cell mediated hepatitis via modulation of NK cell function

Ludmila Alves et al.

Institute of Pathology, University of Bern, Bern, Switzerland

6 - The m153 gene product stabilizes expression of the inhibitory NKR-P1B ligand, Clr-b, during mouse cytomegalovirus infection

James R. Carlyle et al.

Sunnybrook Research Institute University of Toronto, Toronto, ON, Canada



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

7 - NK cells and human cytomegalovirus (HCMV): role of viral immediate early proteins in the expression of ligands of the NKG2D and DNAM-1 activating receptors.

Cristina Cerboni et al.

Department of Molecular Medicine, Istituto Pasteur-Fondazione Cenci Bolognetti, "Sapienza" University of Rome, Italy.

8 - Antibody-mediated response of NKG2C^{bright} NK cells against human cytomegalovirus

Marcel Costa García et al.

Universitat Pompeu Fabra, Barcelona, Spain

9 - A novel HIV Envelope Bi-specific killer engager enhances NK mediated ADCC responses against HIV-infected cells

Zachary B. Davis et al.

University of Minnesota, Minneapolis, MN, USA

10 - Hepatitis B Virus affects dendritic cell activation and their cross-talk with natural killer cells.

Claudia De Pasquale et al.

University of Messina, Human Pathology, Messina, Italy,

11 - Two strategies for the human innate immune response to EBV infection: one using NK cells and $\gamma\delta$ T cells, the other using only NK cells

Zakia Djaoud et al.

Departments of Structural Biology and Microbiology & Immunology, Stanford University School of Medicine, Stanford, CA, USA.

12 - A New NK Cell Function: Protecting from Virus-induced IL-6 Disease

Christine A. Biron et al.

Department of Molecular Microbiology and Immunology, Division of Biology and Medicine, Brown University, Providence France

13 - Functional and structural dissection of the human cytomegalovirus encoded immunoevasin US11 reveals distinct manipulation of HLA-A and -B

Anne Halenius et al.

Institute of Virology, Medical Center – University of Freiburg, Faculty of Medicine, University of Freiburg, Freiburg, Germany

14 - NK cell responses during direct-acting antiviral treatment of chronic hepatitis C virus infection

Julia Hengst et al.

Department of Gastroenterology, Hepatology and Endocrinology, Hannover Medical School, Hannover, Germany

15 - Profiling peripheral CD56^{neg/low} NK cells in healthy individuals

Lothar Jänsch et al

Cellular Proteomic Group, Helmholtz Centre for Infection Research, Germany



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

16 - Human Natural Killer Cell Sensing and Suppression of Influenza A Viruses

Lisa M. Kronstad et al.

Department of Medicine, Division of Infectious Diseases and Geographic Medicine, Stanford University School of Medicine, Stanford USA.

17 - Characterization of NK cell subset immune responses to influenza virus infection in pregnancy following influenza vaccination

Mathieu Le Gars et al.

Department of Medicine, Stanford Immunology Stanford University School of Medicine, Stanford, CA, USA.

18 - Effector functions of NK1.1+ cells depend on severity of retroviral infection

Elisabeth Littwitz-Salomon et al.

University Hospital Essen, University of Duisburg-Essen, Germany

19 - Induction of NK cell ligands in dengue virus-infected cells and activation of NK cells

Sandra López-Vergès et al

Gorgas Memorial Institute of Health Studies, Panama City, Panama

20 - Omissis

21 - Accumulation of intrahepatic NKp44⁺ NK cells correlates with liver fibrosis and viral load in chronic HCV infection

Olivier Lucar et al.

Sorbonne Universités, UPMC Univ Paris 06, INSERM U1135, CNRS ERL8255, Centre d'Immunologie et des Maladies Infectieuses (CIMI-Paris), Paris, France.

22 - Acute liver damage associated with NK cell activation in a small nonhuman primate model of Hepacivirus infection

Cordelia Manickam et al.

Center for Virology and Vaccine Research, Beth Israel Deaconess Medical Center, Boston, MA, USA

23 - Relationship of NKG2C copy number with the distribution of distinct cytomegalovirus-induced adaptive NK-cell subsets.

Aura Muntasell et al.

IMIM (Institut Hospital del Mar d'Investigacions Mèdiques), Barcelona, Spain

24 - Expansion of highly function CD57⁺NKG2C⁺ NK cells in HIV-infected donors

Matthew S Parsons et al.

Peter Doherty Institute for Infection and Immunity, University of Melbourne, Melbourne, Victoria, Australia

25 - Alterations in NK cell populations and maturation profile during chronic HIV-1 infection

Dimitra Peppas

Division of Infection and Immunity, UCL, London, UK,

26 - Neuroendocrine regulation of NKp46⁺ innate lymphoid cell functions during viral infection

Linda Quatrini et al.

Centre d'Immunologie de Marseille-Luminy, Aix Marseille Université, Inserm, CNRS, Marseille, France



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

27 - Increased frequency and activation of memory NK cells in chronic HBV infection

Ratna S. Wijaya

Storr Liver Centre, The Westmead Institute for Medical Research, University of Sydney, NSW, Australia

28 - Efficient immune responses in immunocompetent individuals developing symptomatic HCMV infection

Raphaëlle Riou et al.

Etablissement Français du Sang, Nantes, France

29 - Crosstalk between Dendritic cells, inflammatory monocytes and lymph node resident NK cells is required for the recruitment of effector NK cells to the draining lymph node and anti-viral protection

Luis J. Sigal et al.

Thomas Jefferson University, Philadelphia, USA.

30 - Determining the human NK cell response to influenza vaccination

Laura Simpson et al.

Department of Medicine, Division of Infectious Diseases, Stanford University, Stanford, California

31 - Evaluation of cytotoxic lymphocyte phenotype and function in 48 myalgic encephalomyelitis/chronic fatigue syndrome patients

Jakob Theorell et al.

Department of Medicine, Huddinge, Karolinska Institutet, Stockholm, Sweden

32 - Modulation of HLA-C2 by human cytomegalovirus is required for a potent KIR2DS1-mediated NK cell activation

Kattria van der Ploeg et al.

Department of Pathology University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

33 - Identification of Five NK cell Evasion functions in a Single HCMV Gene Family

Gavin Wilkinson et al.

Institute of Infection and Immunity, School of Medicine, Cardiff University, Heath Park, Cardiff United Kingdom

34 - Differential adaptive NK cell profiles in chronic HBV versus HCV infection

Britta Zecher et al.

Department of Medicine II, University Hospital Freiburg, Freiburg, Germany

35 - Understanding the viral factors required for NK cell recognition of HIV

Nancy Zhao et al.

Immunology Program Stanford University School of Medicine, Stanford, CA, USA

36 - Impact of HIV-1 derived peptides on HLA-A*11 stabilization and KIR3DL2 binding

Maja Ziegler et al.

Heinrich Pette Institute, Leibniz Institute for Experimental Virology, Hamburg, Germany

37 - CD56^{bright} NK cells are robustly activated and primed for skin-homing during acute dengue virus infection in humans

Christine L. Zimmer et al.

Center for Infectious Medicine, Department of Medicine, Karolinska Institutet, Sweden



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

NK cells and cancer

**38 - NATURAL KILLER CELL RECOGNITION OF IN VIVO DRUG-INDUCED
SENESCENT MULTIPLE MYELOMA CELLS**

Fabrizio Antonangeli et al.

Department of Molecular Medicine, Pasteur Institute-Cenci Bolognetti Foundation, Sapienza University of Rome, Italy

**39 - Mass Cytometry Phenotyping of Pediatric Cancer Cell Lines Reveals Changes in NK Cell
Ligand Expression after IFN γ Treatment Which Alter Tumor Lysis by NK Cells**

Arianexys Aquino-López et al.

Department of Pediatric Research, University of Texas MD Anderson Cancer Center Houston, TX

40 - Omissis

41 - STING-dependent rejection of NK-sensitive tumors

Marcus Assaf et al.

Department of Molecular and Cell biology, and Cancer Research Laboratory, Division of Immunology and Pathogenesis, University of California Berkeley, Berkeley, CA USA

**42 - Donors with centromeric group B and telomeric group A Killer Immunoglobulin-like
Receptor haplotypes improve relapse-free survival in pediatric ALL patients after allogeneic
hematopoietic stem cell transplantation**

Florian Babor et al.

Department of Pediatric Oncology, Hematology and Clinical Immunology, Center for Child and Adolescent Health, Heinrich-Heine University, Medical Faculty, Düsseldorf, Düsseldorf, Germany

43 - Unlicensed NK cells – an effector population during AML immunotherapy?

Fredrik Bergh Thorén et al.

TIMM Laboratory, Sahlgrenska Cancer Center University of Gothenburg, Gothenburg, Sweden

44 - CMV-driven NK cell education and its impact on survival during AML immunotherapy

Elin Bernson et al.

TIMM Laboratory, Sahlgrenska Cancer Center; ²Department of Hematology University of Gothenburg, Gothenburg, Sweden

45 - omissis

**46 - Decreased NK cell-mediated anti-tumor immunity consequent to JAK pathway inhibition
enhances metastasis in preclinical models of breast cancer.**

Alessia Bottos et al.

Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland

47 - TYK2 regulates NK cell function by cell-intrinsic and -extrinsic mechanisms

Natalija Bozovic et al.

Institute of Animal Breeding and Genetics, University of Veterinary Medicine Vienna, Austria

**48 - Natural Killer cell-based immunotherapeutic approaches for soft-tissue sarcoma:
combining *ex-vivo* NK cell expansion and Anti-GD2 antibody-mediated ADCC**

Veit Bücklein et al.

CCG Immunotherapy, Helmholtz Zentrum München, Munich, Germany



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

49 - Elotuzumab promotes NK cell-mediated responses toward multiple myeloma through ADCC and co-stimulatory signaling

Kerry S. Campbell et al.

Fox Chase Cancer Center, Philadelphia, PA, USA

50 - Novel platform for studying infiltration, migration and cytotoxicity of human Natural Killer cells in solid tumors

Valentina Carannante et al.

Dept. of Microbiology, Tumor and Cell Biology, Karolinska Institutet, Stockholm, Sweden

51 - Effect of fractionated radiation on CXCL16 chemokine expression and the migration of NK cells to irradiated tumor cells.

Chanh Tin Pham et al.

Research Center for Cancer Immunotherapy, Chonnam National University Hwasun Hospital, Jeollanamdo, Korea

52 - Targeting Regulators of Natural Killer Cell Homeostasis in Cancer Immunotherapy.

Rebecca B Delconte et al.

The Walter and Eliza Hall Institute of Medical Research, Parkville, Victoria, Australia.

53 - CDK8 –the “enemy” of NK cell cytotoxicity?

Zrinka Didara et al.

Institute of Pharmacology and Toxicology; University of Veterinary Medicine, Vienna

54 - The role of NK cell NKG2D in human hepatocellular carcinoma

Nicholas Easom et al.

University College London, London, UK

55 - NK cells targeting of melanoma by nanotechnology assisted p53 reactivation

Cinzia Garofalo et al.

Tumor Immunology and Immunopathology Laboratory, Department of Experimental and Clinical Medicine, University "Magna Græcia " of Catanzaro, Campus Italy

56 - Idelalisib targets NOX2-mediated immunosuppression to improve NK cell-dependent clearance of tumor cells

Alexander Hallner et al.

TIMM Laboratory, Sahlgrenska Cancer Center, University of Gothenburg, Sweden

57 - Bile acid-induced impairment of cNK cell activity might contribute to formation of duodenal carcinomas in patients with familial adenomatous polyposis (FAP)

Christoph Hoffmeister et al.

Department of Internal Medicine I, University of Bonn, Germany.

58 - Optimized Gene Editing of Primary NK cells for Enhanced NK Immunotherapy

John Hunzeker et al.

Department of Pediatrics, University of Minnesota, Minneapolis, Minnesota, USA.



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

59 - NK Cells Characteristics and Anti-Tumor Efficacy in Multiple Myeloma and Lymphoma Patients Before and After Autologous Stem Cell Transplantation

Benedikt Jacobs et al.

Department of Haematology and Oncology, University Hospital Erlangen, Erlangen, Germany

60 - IL-2 in the tumor microenvironment is necessary for Wiskott-Aldrich syndrome protein deficient NK cells to respond to tumors *in vivo*

Joanna S. Kritikou et al.

Department of Microbiology Tumor and Cell biology, Karolinska Institutet, Stockholm Sweden

61 - Maneuvering the nutrient accessibility to natural killer cells and tumor cells during tumor progression

Seung-Hwan Lee et al.

Department of Biochemistry, Microbiology and Immunology, Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada

62 - The two to tango: daratumumab enhances anti-multiple myeloma response of alloreactive NK cells in suppressive tumor microenvironment

Niken M. Mahaweni et al.

Department of Internal Medicine Division of Hematology, Maastricht University Medical Center, the Netherlands

63 - Human Obesity Induces Metabolic Reprogramming In Natural Killer Cells Preventing Their Cytotoxicity Against Tumors

Xavier Michelet et al.

Brigham and Women's Hospital, Boston, MA, USA

64 - Analysis of memory-like NK cells in HCMV-infected children undergoing $\alpha\beta$ +T- and B-cell depleted HSCT for hematological malignancies

Letizia Muccio et al.

Dipartimento di Medicina Sperimentale and Centro di Eccellenza per la Ricerca Biomedica, Università di Genova, Genova, Italy

65 - Mir-29b Disrupts Innate Immune Development in Acute Myeloid Leukemia

Bethany L Mundy-Bosse et al.

Comprehensive Cancer Center, The Ohio State University, Columbus, Ohio USA.

66 - Generation of tumor-specific NK cells by differentiation of CAR-gene transduced hematopoietic progenitors

Pranav Oberoi et al.

Georg-Speyer-Haus, Institute for Tumor Biology and Experimental Therapy, Frankfurt am Main, Germany

67 - Microwell-based collagen matrix migration assays to study NK–target interactions

Per Olofsson et al.

Division of Cell Physics, Department of Applied Physics, Science for Life Laboratory, KTH Royal Institute of Technology, Stockholm, Sweden



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

68 - Cooperation of Langerhans cells and NK cells in the immunosurveillance of the epidermis during chemical carcinogenesis

Daniela Ortner et al.

Department of Dermatology, Venereology and Allergology Medical University of Innsbruck, Innsbruck, Austria

69 - The NK cell immunological synapse – U-STAT1 at the interface of cytotoxicity

Michaela Prchal-Murphy et al.

Institute of Pharmacology and Toxicology, Department for Biomedical Science, University of Veterinary Medicine Vienna, Vienna, Austria

70 - Role of NKG2D on murine natural killer cells in cancer immunosurveillance

Daniela Prinz et al.

University of Veterinary Medicine Vienna, Institute of Pharmacology and Toxicology, Department for Biomedical Sciences, Vienna, Austria

71 - Genetic evidence of a pro-tumorigenic function for NKG2D in inflammation-driven hepatocellular carcinoma

Sam Sheppard et al.

Department of Life Sciences, Imperial College London. London UK

72 - Chemotherapy-treated Multiple Myeloma cells elicit NK cell proliferation by trans-presenting IL15

Alessandra Soriani et al.

Department of Molecular Medicine, Istituto Pasteur-Fondazione Cenci Bolognetti, Sapienza University of Rome, Italy

73 - Unexpected relationship between Ferritin Heavy Chain and expression of ligands for immune cell recognition

Rosa Sottile et al.

Department of Microbiology, Tumor and Cell Biology, Karolinska Institutet, Stockholm Sweden.

74 - Reconstitution of CD56^{low}CD16^{low} Natural Killer cells in pediatric leukemic patients after α/β T cell-depleted hematopoietic stem cell transplantation

Helena Stabile et al.

Dept. Molecular Medicine CLNS@Sapienza Italy

75 - Loss of HIF-1 α in Natural Killer cells inhibits tumour growth by stimulating non-productive angiogenesis

Christian Stockmann et al.

Institut National de la Santé et de la Recherche Médicale (INSERM), Unit 970, Paris Cardiovascular Research Center, Paris, France

76 - Tumor therapeutics work as stress inducers to enhance tumor sensitivity to NK cell cytotoxicity by upregulating NKp30 ligand B7-H6

Rui Sun et al.

Institute of Immunology and The Key Laboratory of Innate Immunity and Chronic Disease (Chinese Academy of Science), School of Life Science and Medical Center, University of Science and Technology of China, Hefei China



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

77 - NK92 cells show increased 3D migration upon cytokine stimulation

Heather Swift et al.

Department of Infection Biology, University of Liverpool, Merseyside, UK

78 - NK cells control the breast cancer and related cancer stem cells hematological spreading

Rossana Tallerico et al.

Tumor Immunology and Immunopathology Laboratory, Department of Experimental and Clinical Medicine, University Magna Graecia of Catanzaro, Catanzaro, Italy

79 - The activating human NK cell receptor KIR2DS2 recognizes a β 2-microglobulin independent ligand on cancer cells

Lavanya Thiruchelvam-Kyle et al.

Department of Molecular Medicine, Division of Anatomy, University of Oslo, Oslo, Norway

80 - IL-15 stimulated NK cells can kill both pancreatic cancer and stellate cells

Jonas RM Van Audenaerde et al.

Center for Oncological Research, University of Antwerp, Antwerp, Belgium

81 - NK cells can favor melanoma cell transition to aggressive phenotype resembling the Epithelial to mesenchymal transition (EMT).

Massimo Vitale et al.

IRCCS AOU San Martino-IST; Genova, Italy.

82 - IL-15 primes human CD56^{bright} NK cells via the PI3K/mTOR and MAPK/Erk pathways for potent anti-tumor responsiveness

Julia A. Wagner et al.

Division of Oncology, Washington University School of Medicine, St. Louis, MO, USA

83 - Repression of GSK3 restores NK cell cytotoxicity in AML patients.

David N. Wald et al.

Department of Pathology, Case Western Reserve University, Cleveland, Ohio, USA

84 - Timing and localization of NK cell-mediated granzyme B and caspase-8 activity in tumor cells

Carsten Watzl et al.

Division of Theoretical Bioinformatics (B080), German Cancer Research Center (DKFZ), Heidelberg, Germany

85 - Adsorption apheresis of soluble NKG2D ligands as new therapeutic strategy to overcome tumor immune escape in Head and Neck Cancer and improve NK cell function

Sandra Weil et al.

Georg-Speyer-Haus, Institute for Tumor Biology and Experimental Therapy, Frankfurt am Main, Germany

Clinical applications of NK cells

86 - GENOTYPING OF KIR3DL1/S1 CODON 86 AND GENE COPY NUMBER: TOWARDS IMPROVED SELECTION OF ALLOREACTIVE BW4 DONORS FOR HAPLOIDENTICAL HEMATOPOIETIC STEM CELL TRANSPLANTATION (HAPLO-HSCT)

Claudia Alicata et al.

Dipartimento di Medicina Sperimentale, University of Genoa, Italy.



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

87 - NKG2A checkpoint antibody enhances the anti-tumor efficacy of PD-1 pathway blockade in a preclinical model

Pascale André et al.

Innate Pharma, Marseille, France

88 - Head-to-head comparison of Azacitidine and Decitabine for their potentiating effect on HPC-NK cell adoptive immunotherapy against acute myeloid leukemia.

Jeannette Cany et al.

Department of Laboratory Medicine, Laboratory of Hematology; Radboud University Medical Center, Nijmegen, the Netherlands.

89 - THE INTERPLAY BETWEEN ANTI-CD20 THERAPEUTIC ANTIBODIES AND HUMAN NATURAL KILLER CELLS: IMPACT OF ANTIBODY Fc ENGINEERING

Cristina Capuano et al.

Department of Experimental Medicine, Sapienza University, Sapienza University, Rome, Italy.

90 - HUMAN ACTIVATED NK CELLS KILL MULTIPLE MYELOMA-DERIVED ENDOTHELIAL CELLS

Roberta Castriconi et al.

Department of Experimental Medicine (DIMES), University of Genova, Italy

91 - NK cell subsets and their receptor expression in PBMC of a healthy Korean population: reference range, influence of age and sex, and correlation between NK cell receptors and their activity.

Duck Cho et al.

Department of Laboratory Medicine and Genetics, Samsung Medical Center, Sungkyunkwan University College of Medicine, Seoul, Korea

92 - Adaptive NK Cells have Enhanced Effector Function Against Acute Lymphoblastic Leukaemia

Bree Foley et al.

Telethon Kids Institute, University of Western Australia, Perth, Australia

93 - Impaired NK cell cytotoxic function as a result of STAT5b mutations.

Lisa R. Forbes et al.

Baylor College of Medicine, Houston, TX, USA

94 - Broad KIR allelic polymorphism investigated by Next Generation Sequencing technology

Katia Gagne et al.

Etablissement Français du Sang and Université de Nantes, Immunovirologie et Polymorphisme Génétique, Nantes, France

95 - Activated NK cells for cancer immunotherapy: donor lymphocyte infusion (DLI) in transplanted patients.

Sophie Guia et al.

Centre d'Immunologie de Marseille-Luminy, Aix Marseille Université UM2, Inserm, U1104, CNRS UMR7280, Marseille, France



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY
Taormina (Me) - Italy • October 2 – 5, 2016

96 - Microchip Screening for Single Cell Assessment of NK Cell Cytotoxicity

Karolin Guldevall et al.

Science for Life Laboratory, Department of Applied Physics, KTH - Royal Institute of Technology, Solna, Swede

97 - Development of standardized and flexible 8-colour flow cytometry panels harmonized between different laboratories to study NK cell phenotype and function

Volker Huppert et al.

Miltenyi Biotech GmbH, Bergisch Gladbach, Germany

98 - Creating NK cell therapeutics with multiple targeting activities: Electroporation of mRNA for Chimeric Antigen Receptors (CARs) into human NK effector cell lines.

Junaid Khan et al.

NantKwest, Inc. Woburn, MA; and Culver City, CA, USA.

99 - Immunotherapy of plasma cell myeloma patients with multiple infusions of good manufacturing practice expanded natural killer cells

Christian Kalberer et al.

Diagnostic and Clinical Hematology, University Hospital Basel, Switzerland

100 - Cetuximab reconstitutes pro-inflammatory cytokine secretions and tumour-infiltrating capabilities of sMICA-inhibited NK cells in HNSCC tumour spheroids

Stephan Klöß et al.

Institute of Cellular Therapeutics, Integrated Research and Treatment Center Transplantation (IFB-Tx), Hannover Medical School, Hannover, Germany

101 - Anti-PD1 treatment restores NK-cell function in a proportion of melanoma patients

Anna Kreutzman et al.

Hematology Research Unit Helsinki, Department of Clinical Chemistry and Hematology, University of Helsinki and Helsinki University Central Hospital Comprehensive Cancer Center, Helsinki, Finland

102 - Neutrophil-to-lymphocyte ratio and IFN- γ secreted from NK cells was negatively correlated in healthy population

Kyeong-Hee Kim et al.

Department of Laboratory Medicine, Dong-A University College of Medicine, Pusan, Korea,

103 - Optimizing allogeneic natural killer cell reactivity by gene knock-out/knock-down of inhibitory receptors

Francisco Navarro et al.

NantKwest, Inc. Woburn, MA and Culver City, CA, USA

104 - Primary CAR NK cells modified with alpharetroviral vectors exhibited improved cytotoxicity against resistant AML cells

Olaf Oberschmidt et al.

Institute of Cellular Therapeutics, Hannover Medical School, Hannover, Germany

105 - NK cells in TCR $\alpha\beta$ /CD19 depleted haplo-HSCT to cure pediatric leukemia patients: donor selection and post-transplant patient monitoring

Daniela Pende et al.



16th Meeting of the
SOCIETY FOR NATURAL IMMUNITY

Taormina (Me) - Italy • October 2 – 5, 2016

IRCCS AOU San Martino-IST, Genoa, Italy

106 - Feasibility and safety of IL-15/4-1BBL activated and expanded NK cells in paediatric patients with refractory acute leukaemia

Antonio Pérez-Martínez et al.

UAM Servicio de Hemato-Oncología Pediátrica Hospital Infantil Universitario Madrid, Spain

107 - Umbilical cord blood stem cell derived NK cells as universal treatment for metastatic colorectal cancer using EGFR independent killing mechanisms

Jan Spanholtz et al.

Glycostem Therapeutics, Oss, the Netherlands.

108 - High NKG2A Expression Contributes to NK Cell Exhaustion in the Tumour Centre and Predicts a Poor Prognosis of Patients with HCC

Cheng Sun et al.

Institute of Immunology, The Key Laboratory of Innate Immunity and Chronic Disease (Chinese Academy of Medical Science), School of Life Sciences and Medical Center, University of Science & Technology of China, Hefei, Anhui, China

109 - Relation between acute GVHD and NK cell subset reconstitution following allogeneic stem cell transplantation

Evelyn Ullrich et al.

LOEWE Center for Cell and Gene Therapy, Goethe University, Frankfurt, Germany

110 - Bone marrow produces sufficient alloreactive natural killer (NK) cells *in vivo* to cure mice from subcutaneous and intravascular injected 4T1 breast cancer – promising prospect of treatment with bone marrow transplantation from NK alloreactive donors in patients with metastasized breast cancer

Michel van Gelder et al.

Department of internal medicine, Maastricht University Medical Center, Maastricht, The Netherlands

111 - Superior HLA-independent lysis of cervical cancer by allogeneic umbilical cord blood derived NK cells

John P. Veluchamy et al.

Department of Medical Oncology, VU University Medical Center-Cancer Center Amsterdam, The Netherlands

112 - Isolation of individual NK cells based on functional properties

Quentin Verron et al

Dept of Applied Physics, SciLifeLab, KTH-Royal Institute of Technology, Stockholm, Sweden

113 - Chimeric Antigen Receptors in Primary NK Cells: Deciphering the Role of NK Functional Subsets and Their Intrinsic Capacity

Vincent Yi Sheng Oei et al.

Department of Cancer Immunology, Institute for Cancer Research, Oslo University Hospital, Norway.

114- Intra-tumor injection of CAR-engineered NK cells induces tumor regression and protection against tumor re-challenge.

Laurent Boissel et al.



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