

Michael Claus V Jensen, MD



High-Risk Leukemia Program

Children's Title: Vice President, Seattle Children's Therapeutics, and Chief Therapeutics Officer

Academic Title: Professor

Foundation Title: Janet and Jim Sinegal Endowed Chair in Pediatric Solid Tumor Research in honor of Korey Rose

Biography

Michael Jensen, MD, is a professor of hematology-oncology at the University of Washington School of Medicine. He is member of the clinical division in the Program in Immunology at Fred Hutchinson Cancer Center. Jensen holds the Janet and Jim Sinegal Endowed Chair in Pediatric Solid Tumor Research in Honor of Korey Rose.

Dr. Michael Jensen graduated from the University of Pennsylvania School of Medicine then completed training in Pediatric Hematology and Oncology at the University of Washington/Fred Hutchinson Cancer Center. His laboratory work began under the mentorship of Dr. Philip Greenberg, Program Head in Immunology, Fred Hutch and focused on the immunobiology of tumor-specific T-cells. Following completion of his fellowship, Dr. Jensen joined the faculty at the City of Hope National Medical Center

where he built a translational research program integrating gene therapy and cellular immunotherapy for cancer. This program grew in to the Department of Cancer Immunotherapeutics & Tumor Immunology within the Beckman Research Institute and was incorporated into the institutions NCI-Comprehensive Cancer Center as the Cancer Immunotherapeutics Program with Dr Jensen as its leader. During his tenure at City of Hope, Dr Jensens research program placed a strong emphasis on bench-to-bedside translational research and resulted in seven FDA-authorized Investigational New Drug Applications covering first-in-human applications of adoptive transfer of genetically engineered T-cells having re-directed tumor specificity for lymphoma, neuroblastoma, and malignant gliomas. In 2010, Dr Jensen joined the University of Washington School of Medicine faculty as a Professor of Pediatrics and is the founding director of the Ben Towne Center for Childhood Cancer Research. He holds the Janet and Jim Sinegal endowed chair in pediatric cancer research. Dr. Jensen is an adjunct professor of Bioengineering and Neurological Surgery at the University of Washington School of Medicine and a joint member of the Clinical Research Division at Fred Hutch. Dr. Jensen is an Associate Head of the Immunology and Vaccine Development Program of the UW-Fred Hutch Cancer Consortium and is a SU2C Dream Team Principal Investigator on the recently awarded Pediatric Cancer Research Immunogenomics Dream Team award.

Related Pages



Jensen Lab

At Seattle Children's, the Jensen Lab is pursuing a cutting-edge treatment that reprograms a child's defense system to attack and kill cancer cells, without chemotherapy or radiation – or their debilitating side effects.

Patient Testimonials

Nathan

Lynnwood, Washington

07.24.13

Dr. Jensen was in his Fellowship at Seattle Children's in 1994-1995 and was instrumental in my battle with Non-Hogkins. It was a scary time, but his ability to explain the processes, side-affects, and outlook was confident and caring for my parents and myself. As a patient and a child, I wanted to know what was going on and why. Dr. Jensen took the time to converse candidly with me about the cancer, the

treatments, and the schedule. I think these conversations helped me to not fear the cancer or the treatments, that the only thing to fear is what I do not know. Dr. Jensen and the team at Seattle Children's have a beautiful vision and I have hope and confidence they will make it happen. Contrary to what I was told were possibilities: The salt in the pepperoni sticks that were the only thing I wanted to eat during treatment, didn't hurt me. The sun might have been bad for the skin because of the treatments, but it was great for my spirit (my Dermatologist does agree that I should stay away from it though). The infertility rate of childhood cancer survivors went down about 6 years ago when my wife Kristy and I welcomed our son, Jonathan. We also have a daughter, Kaleah (16 months). I closed my account at "the bank" after finding out I didn't need what was deposited. I would encourage anyone who was treated for childhood cancer by any doctor or hospital to participate in a "Long Term Follow-Up" study. Doing so creates a wealth of knowledge and helps communicate the need for Doctor Jensen's research. These studies document the impact of childhood cancer and treatments on survivors and their quality of life. Thank You Dr. Jensen for your continued care in the battle, Nathan Schauermaann Survivor, Non-Hogkins T-cell Lymphoma

Lacey
Los Angeles, CA
12.02.11

Dr. Jensen was my pediatric oncologist at a California hospital before he moved to Seattle Children's; and before I met him I was given a 30% chance to live. That was 12 years ago. To Dr. Jensen you are more than just a chart, number, or disease, you are a human being. His bedside manner, I have yet to see duplicated, and when he told me I was cancer free and would no longer need treatments, I cried, because I was going to miss HIM. I'm happy to say that I am doing well and I'm getting ready to celebrate my 25th birthday, a birthday I likely would not have had if not for Dr. Jensen. Thank you doctor for everything you have done for pediatric cancer patients everywhere, and for giving me my life back!

Publications

Other Publications

- Jensen MC, Riddell SR

Design and implementation of adoptive therapy with chimeric antigen receptor-modified T cells.

24329794 *Immunological reviews*, 2014 Jan. : 257(1)127-44

- Budde LE, Berger C, Lin Y, Wang J, Lin X, Frayo SE, Brouns SA, Spencer DM, Till BG, Jensen MC, Riddell SR, Press OW
Combining a CD20 Chimeric Antigen Receptor and an Inducible Caspase 9 Suicide Switch to Improve the Efficacy and Safety of T Cell Adoptive Immunotherapy for Lymphoma.
24358223 *PloS one*, 2013 Dec. 17 : 8(12)e82742 PMID:PMC3866194
- Hunter MR, Prosser ME, Mahadev V, Wang X, Aguilar B, Brown CE, Forman SJ, Jensen MC
Chimeric c cytokine receptors confer cytokine independent engraftment of human T lymphocytes.
23628622 *Molecular immunology*, 2013 Nov. : 56(1-2)1-11
- Mardiros A, Dos Santos C, McDonald T, Brown CE, Wang X, Budde LE, Hoffman L, Aguilar B, Chang WC, Bretzlaff W, Chang B, Jonnalagadda M, Starr R, Ostberg JR, Jensen MC, Bhatia R, Forman SJ
T cells expressing CD123-specific chimeric antigen receptors exhibit specific cytolytic effector functions and antitumor effects against human acute myeloid leukemia.
24030378 *Blood*, 2013 Oct. 31 : 122(18)3138-48 PMID:PMC3814731
- Hudecek M, Lupo-Stanghellini MT, Kosasih PL, Sommermeyer D, Jensen MC, Rader C, Riddell SR
Receptor affinity and extracellular domain modifications affect tumor recognition by ROR1-specific chimeric antigen receptor T cells.
23620405 *Clinical cancer research : an official journal of the American Association for Cancer Research*, 2013 June 15 : 19(12)3153-64 PMID:PMC3804130
- Jonnalagadda M, Brown CE, Chang WC, Ostberg JR, Forman SJ, Jensen MC
Engineering human T cells for resistance to methotrexate and mycophenolate mofetil as an in vivo cell selection strategy.
23755242 *PloS one*, 2013 : 8(6)e65519 PMID:PMC3675038
- Riddell SR, Jensen MC, June CH
Chimeric antigen receptor--modified T cells: clinical translation in stem cell transplantation and beyond.
23085599 *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*, 2013 Jan. : 19(1 Suppl)S2-5 PMID:PMC3654529
- Wang X, Naranjo A, Brown CE, Bautista C, Wong CW, Chang WC, Aguilar B, Ostberg JR, Riddell SR, Forman SJ, Jensen MC
Phenotypic and functional attributes of lentivirus-modified CD19-specific human CD8+ central memory T cells manufactured at clinical scale.

- Turtle CJ, Hudecek M, Jensen MC, Riddell SR
Engineered T cells for anti-cancer therapy.
22818942 *Current opinion in immunology*, 2012 Oct. : 24(5)633-9 PMCID:PMC3622551
- Prosser ME, Brown CE, Shami AF, Forman SJ, Jensen MC
Tumor PD-L1 co-stimulates primary human CD8(+) cytotoxic T cells modified to express a PD1:CD28 chimeric receptor.
22503210 *Molecular immunology*, 2012 July : 51(3-4)263-72
- Till BG, Jensen MC, Wang J, Qian X, Gopal AK, Maloney DG, Lindgren CG, Lin Y, Pagel JM, Budde LE, Raubitschek A, Forman SJ, Greenberg PD, Riddell SR, Press OW
CD20-specific adoptive immunotherapy for lymphoma using a chimeric antigen receptor with both CD28 and 4-1BB domains: pilot clinical trial results.
22308288 *Blood*, 2012 April 26 : 119(17)3940-50 PMCID:PMC3350361
- Brown CE, Starr R, Aguilar B, Shami AF, Martinez C, D'Apuzzo M, Barish ME, Forman SJ, Jensen MC
Stem-like tumor-initiating cells isolated from IL13R2 expressing gliomas are targeted and killed by IL13-zetakine-redirected T Cells.
22407828 *Clinical cancer research : an official journal of the American Association for Cancer Research*, 2012 April 15 : 18(8)2199-209 PMCID:PMC3578382
- Terakura S, Yamamoto TN, Gardner RA, Turtle CJ, Jensen MC, Riddell SR
Generation of CD19-chimeric antigen receptor modified CD8+ T cells derived from virus-specific central memory T cells.
22031866 *Blood*, 2012 Jan. 5 : 119(1)72-82 PMCID:PMC3251238
- Zou Z, Denny E, Brown CE, Jensen MC, Li G, Fujii T, Neman J, Jandial R, Chen M
Cytotoxic T lymphocyte trafficking and survival in an augmented fibrin matrix carrier.
22496835 *PloS one*, 2012 : 7(4)e34652 PMCID:PMC3319597
- Wang X, Chang WC, Wong CW, Colcher D, Sherman M, Ostberg JR, Forman SJ, Riddell SR, Jensen MC
A transgene-encoded cell surface polypeptide for selection, in vivo tracking, and ablation of engineered cells.
21653320 *Blood*, 2011 Aug. 4 : 118(5)1255-63 PMCID:PMC3152493
- Wang X, Berger C, Wong CW, Forman SJ, Riddell SR, Jensen MC
Engraftment of human central memory-derived effector CD8+ T cells in immunodeficient mice.
21123821 *Blood*, 2011 Feb. 10 : 117(6)1888-98 PMCID:PMC3056638

- Hudecek M, Schmitt TM, Baskar S, Lupo-Stanghellini MT, Nishida T, Yamamoto TN, Bleakley M, Turtle CJ, Chang WC, Greisman HA, Wood B, Maloney DG, Jensen MC, Rader C, Riddell SR
The B-cell tumor-associated antigen ROR1 can be targeted with T cells modified to express a ROR1-specific chimeric antigen receptor.
20702778 *Blood*, 2010 Nov. 25 : 116(22)4532-41 PMID:PMC2996114
- Jensen MC, Popplewell L, Cooper LJ, DiGiusto D, Kalos M, Ostberg JR, Forman SJ
Antitransgene rejection responses contribute to attenuated persistence of adoptively transferred CD20/CD19-specific chimeric antigen receptor redirected T cells in humans.
20304086 *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*, 2010 Sept. : 16(9)1245-56
PMCID:PMC3383803
- Alizadeh D, Zhang L, Brown CE, Farrukh O, Jensen MC, Badie B
Induction of anti-glioma natural killer cell response following multiple low-dose intracerebral CpG therapy.
20570924 *Clinical cancer research : an official journal of the American Association for Cancer Research*, 2010 July 1 : 16(13)3399-408 PMID:PMC3022005
- Cao LF, Krymskaya L, Tran V, Mi S, Jensen MC, Blanchard S, Kalos M
Development and application of a multiplexable flow cytometry-based assay to quantify cell-mediated cytotoxicity.
20229499 *Cytometry. Part A : the journal of the International Society for Analytical Cytology*, 2010 June : 77(6)534-45
- Chen YY, Jensen MC, Smolke CD
Genetic control of mammalian T-cell proliferation with synthetic RNA regulatory systems.
20421500 *Proceedings of the National Academy of Sciences of the United States of America*, 2010 May 11 : 107(19)8531-6 PMID:PMC2889348
- James SE, Greenberg PD, Jensen MC, Lin Y, Wang J, Budde LE, Till BG, Raubitschek AA, Forman SJ, Press OW
Mathematical modeling of chimeric TCR triggering predicts the magnitude of target lysis and its impairment by TCR downmodulation.
20220093 *Journal of immunology (Baltimore, Md. : 1950)*, 2010 April 15 : 184(8)4284-94
PMCID:PMC2896691
- James SE, Orgun NN, Tedder TF, Shlomchik MJ, Jensen MC, Lin Y, Greenberg PD, Press OW
Antibody-mediated B-cell depletion before adoptive immunotherapy with T cells expressing CD20-specific chimeric T-cell receptors facilitates eradication of leukemia

in immunocompetent mice.

19880489 *Blood*, 2009 Dec. 24 : 114(27)5454-63 PMID:PMC2798862

- Brown CE, Starr R, Martinez C, Aguilar B, D'Apuzzo M, Todorov I, Shih CC, Badie B, Hudecek M, Riddell SR, Jensen MC

Recognition and killing of brain tumor stem-like initiating cells by CD8⁺ cytolytic T cells.

19903840 *Cancer research*, 2009 Dec. 1 : 69(23)8886-93 PMID:PMC2789196

- Berger C, Berger M, Hackman RC, Gough M, Elliott C, Jensen MC, Riddell SR
Safety and immunologic effects of IL-15 administration in nonhuman primates.
19605850 *Blood*, 2009 Sept. 17 : 114(12)2417-26 PMID:PMC2746471

- Berger C, Turtle CJ, Jensen MC, Riddell SR

Adoptive transfer of virus-specific and tumor-specific T cell immunity.

19304470 *Current opinion in immunology*, 2009 April : 21(2)224-32 PMID:PMC2720155

- Yaghoubi SS, Jensen MC, Satyamurthy N, Budhiraja S, Paik D, Czernin J, Gambhir SS
Noninvasive detection of therapeutic cytolytic T cells with 18F-FHBG PET in a patient with glioma.

19015650 *Nature clinical practice. Oncology*, 2009 Jan. : 6(1)53-8 PMID:PMC3526373

- Till BG, Jensen MC, Wang J, Chen EY, Wood BL, Greisman HA, Qian X, James SE, Raubitschek A, Forman SJ, Gopal AK, Pagel JM, Lindgren CG, Greenberg PD, Riddell SR, Press OW

Adoptive immunotherapy for indolent non-Hodgkin lymphoma and mantle cell lymphoma using genetically modified autologous CD20-specific T cells.

18509084 *Blood*, 2008 Sept. 15 : 112(6)2261-71 PMID:PMC2532803

- Lazovic J, Jensen MC, Ferkassian E, Aguilar B, Raubitschek A, Jacobs RE

Imaging immune response in vivo: cytolytic action of genetically altered T cells directed to glioblastoma multiforme.

18559603 *Clinical cancer research : an official journal of the American Association for Cancer Research*, 2008 June 15 : 14(12)3832-9 PMID:PMC2737486

- James SE, Greenberg PD, Jensen MC, Lin Y, Wang J, Till BG, Raubitschek AA, Forman SJ, Press OW

Antigen sensitivity of CD22-specific chimeric TCR is modulated by target epitope distance from the cell membrane.

18453625 *Journal of immunology (Baltimore, Md. : 1950)*, 2008 May 15 : 180(10)7028-38 PMID:PMC2585549

- Berger C, Jensen MC, Lansdorp PM, Gough M, Elliott C, Riddell SR

Adoptive transfer of effector CD8⁺ T cells derived from central memory cells establishes persistent T cell memory in primates.

- Jensen MC
Engineering GVL through T cell gene transfer.
18162214 *Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation*, 2008 Jan. : 14(1 Suppl 1)5
- Stastny MJ, Brown CE, Ruel C, Jensen MC
Medulloblastomas expressing IL13Ralpha2 are targets for IL13-zetakine+ cytolytic T cells.
17921847 *Journal of pediatric hematology/oncology*, 2007 Oct. : 29(10)669-77
- Tran CA, Burton L, Russom D, Wagner JR, Jensen MC, Forman SJ, DiGiusto DL
Manufacturing of large numbers of patient-specific T cells for adoptive immunotherapy: an approach to improving product safety, composition, and production capacity.
17667528 *Journal of immunotherapy (Hagerstown, Md. : 1997)*, 2007 Sept. : 30(6)644-54
- Brown CE, Vishwanath RP, Aguilar B, Starr R, Najbauer J, Aboody KS, Jensen MC
Tumor-derived chemokine MCP-1/CCL2 is sufficient for mediating tumor tropism of adoptively transferred T cells.
17709550 *Journal of immunology (Baltimore, Md. : 1950)*, 2007 Sept. 1 : 179(5)3332-41
- Numbenjapon T, Serrano LM, Chang WC, Forman SJ, Jensen MC, Cooper LJ
Antigen-independent and antigen-dependent methods to numerically expand CD19-specific CD8+ T cells.
17588477 *Experimental hematology*, 2007 July : 35(7)1083-90
- Park JR, DiGiusto DL, Slovak M, Wright C, Naranjo A, Wagner J, Meechooovet HB, Bautista C, Chang WC, Ostberg JR, Jensen MC
Adoptive transfer of chimeric antigen receptor re-directed cytolytic T lymphocyte clones in patients with neuroblastoma.
17299405 *Molecular therapy : the journal of the American Society of Gene Therapy*, 2007 April : 15(4)825-33
- Singh H, Serrano LM, Pfeiffer T, Olivares S, McNamara G, Smith DD, Al-Kadhimi Z, Forman SJ, Gillies SD, Jensen MC, Colcher D, Raubitschek A, Cooper LJ
Combining adoptive cellular and immunocytokine therapies to improve treatment of B-lineage malignancy.
17363611 *Cancer research*, 2007 March 15 : 67(6)2872-80
- Parsa AT, Waldron JS, Panner A, Crane CA, Parney IF, Barry JJ, Cachola KE, Murray JC, Tihan T, Jensen MC, Mischel PS, Stokoe D, Pieper RO

Loss of tumor suppressor PTEN function increases B7-H1 expression and immunoresistance in glioma.

17159987 *Nature medicine*, 2007 Jan. : 13(1)84-8

- Kowolik CM, Topp MS, Gonzalez S, Pfeiffer T, Olivares S, Gonzalez N, Smith DD, Forman SJ, Jensen MC, Cooper LJ
CD28 costimulation provided through a CD19-specific chimeric antigen receptor enhances in vivo persistence and antitumor efficacy of adoptively transferred T cells.
17108138 *Cancer research*, 2006 Nov. 15 : 66(22)10995-1004
- Serrano LM, Pfeiffer T, Olivares S, Numbenjapon T, Bennitt J, Kim D, Smith D, McNamara G, Al-Kadhimi Z, Rosenthal J, Forman SJ, Jensen MC, Cooper LJ
Differentiation of naive cord-blood T cells into CD19-specific cytolytic effectors for posttransplantation adoptive immunotherapy.
16352804 *Blood*, 2006 April 1 : 107(7)2643-52 PMID:PMC1895371
- Otto-Duessel M, Khankaldyyan V, Gonzalez-Gomez I, Jensen MC, Laug WE, Rosol M
In vivo testing of Renilla luciferase substrate analogs in an orthotopic murine model of human glioblastoma.
16954019 *Molecular imaging*, 2006 April : 5(2)57-64
- Vishwanath RP, Brown CE, Wagner JR, Meechoovet HB, Naranjo A, Wright CL, Olivares S, Qian D, Cooper LJ, Jensen MC
A quantitative high-throughput chemotaxis assay using bioluminescent reporter cells.
15987642 *Journal of immunological methods*, 2005 July : 302(1-2)78-89
- Gonzalez S, Castanotto D, Li H, Olivares S, Jensen MC, Forman SJ, Rossi JJ, Cooper LJ
Amplification of RNAi--targeting HLA mRNAs.
15851019 *Molecular therapy : the journal of the American Society of Gene Therapy*, 2005 May : 11(5)811-8
- Cooper LJ, Al-Kadhimi Z, Serrano LM, Pfeiffer T, Olivares S, Castro A, Chang WC, Gonzalez S, Smith D, Forman SJ, Jensen MC
Enhanced antilymphoma efficacy of CD19-redirection influenza MP1-specific CTLs by cotransfer of T cells modified to present influenza MP1.
15507526 *Blood*, 2005 Feb. 15 : 105(4)1622-31
- Brown CE, Wright CL, Naranjo A, Vishwanath RP, Chang WC, Olivares S, Wagner JR, Bruins L, Raubitschek A, Cooper LJ, Jensen MC
Biophotonic cytotoxicity assay for high-throughput screening of cytolytic killing.
15777929 *Journal of immunological methods*, 2005 Feb. : 297(1-2)39-52
- Cooper LJ, Kalos M, DiGiusto D, Brown C, Forman SJ, Raubitschek A, Jensen MC

T-cell genetic modification for re-directed tumor recognition.

16110618 *Cancer chemotherapy and biological response modifiers*, 2005 : 22293-324

- Kahlon KS, Brown C, Cooper LJ, Raubitschek A, Forman SJ, Jensen MC
Specific recognition and killing of glioblastoma multiforme by interleukin 13-zetakine redirected cytolytic T cells.
15604287 *Cancer research*, 2004 Dec. 15 : 64(24)9160-6
- Cooper LJ, Al-Kadhimi Z, DiGiusto D, Kalos M, Colcher D, Raubitschek A, Forman SJ, Jensen MC
Development and application of CD19-specific T cells for adoptive immunotherapy of B cell malignancies.
15223016 *Blood cells, molecules & diseases*, 2004 July : 33(1)83-9
- Cooper LJ, Topp MS, Pinzon C, Plavec I, Jensen MC, Riddell SR, Greenberg PD
Enhanced transgene expression in quiescent and activated human CD8+ T cells.
15242525 *Human gene therapy*, 2004 July : 15(7)648-58
- Gonzalez S, Naranjo A, Serrano LM, Chang WC, Wright CL, Jensen MC
Genetic engineering of cytolytic T lymphocytes for adoptive T-cell therapy of neuroblastoma.
15170741 *The journal of gene medicine*, 2004 June : 6(6)704-11
- Wang J, Press OW, Lindgren CG, Greenberg P, Riddell S, Qian X, Laugen C, Raubitschek A, Forman SJ, Jensen MC
Cellular immunotherapy for follicular lymphoma using genetically modified CD20-specific CD8+ cytotoxic T lymphocytes.
15093188 *Molecular therapy : the journal of the American Society of Gene Therapy*, 2004 April : 9(4)577-86
- Topp MS, Riddell SR, Akatsuka Y, Jensen MC, Blattman JN, Greenberg PD
Restoration of CD28 expression in CD28- CD8+ memory effector T cells reconstitutes antigen-induced IL-2 production.
12963692 *The Journal of experimental medicine*, 2003 Sept. 15 : 198(6)947-55
PMCID:PMC2194206
- Cooper LJ, Topp MS, Serrano LM, Gonzalez S, Chang WC, Naranjo A, Wright C, Popplewell L, Raubitschek A, Forman SJ, Jensen MC
T-cell clones can be rendered specific for CD19: toward the selective augmentation of the graft-versus-B-lineage leukemia effect.
12393484 *Blood*, 2003 Feb. 15 : 101(4)1637-44

Hide

4800 Sand Point Way NE,
PO Box 5371
Seattle, WA 98105

206-987-2000

866-987-2000 (toll-free)

206-987-0391 (TTY)

Seattle Children's complies with applicable federal and other civil rights laws and does not discriminate, exclude people or treat them differently based on race, color, religion (creed), sex, gender identity or expression, sexual orientation, national origin (ancestry), age, disability, or any other status protected by applicable federal, state or local law. Financial assistance for medically necessary services is based on family income and hospital resources and is provided to children under age 21 whose primary residence is in Washington, Alaska, Montana or Idaho.