Translational T-cell therapies for solid tumors	Prasad Adusumilli, MD; Christopher Klebanoff, MD; Katharine Hsu, MD, PhD; David Scheinberg, MD, PhD
Curative therapy for leukemia through blockade of aberrant transcription and translation	Scott Armstrong, MD, PhD; Omar Abdel-Wahab, MD; Alex Kentsis, MD, PhD; Michael Kharas, PhD; Ross Levine, MD; Yueming Li, PhD
mRNA Neoantigen Vaccines for Pancreatic Cancer	Vinod Balachandran, MD; Benjamin Greenbaum, PhD
Innovative approaches to translating CAR T cell therapies to solid tumors	Renier Brentjens, MD, PhD; Prasad Adusumilli, MD; Christopher Klebanoff, MD; Michel Sadelain, MD, PhD; David Scheinberg, MD,

Project	Investigator(s)
	PhD; Susan Slovin, MD
Strategies to harness cancer cell stress for treatment and diagnosis	Gabriela Chiosis, PhD; Adriana Corben, MD; Mark Dunphy, DO; Katharine Hsu, MD, PhD; Xuejun Jiang, PhD; Shanu Modi, MD; Larry Norton, MD; Nagavarakishore Pillarsetty, PhD; Derek Tan, PhD
A nanoscale therapeutic platform to target the solid tumor microenvironment	Daniel Heller, PhD; Adriana Haimovitz-Friedman, PhD; John Humm, PhD; Charles Rudin, MD, PhD; Charles Sawyers, MD; David Spriggs, MD
Curing relapsed refractory myeloma with combined immune-therapies	Sergio Giralt, MD; Sham Mailankody, MD; Jonathan Peled, MD, PhD; David Chung, MD; Kazunori Murata, PhD
Toward the cure of adult acute lymphocytic leukemia: A personalized, genetic and epigenetic, chemo-immunotherapeutic approach	Joseph Jurcic, MD; Renier Brentjens, MD, PhD; Cyrus Hedvat, MD, PhD; Ross Levine, MD; Peter Maslak, MD; Hans Guido Wendel, MD; Scott Armstrong, MD, PhD; Michael Kharas, PhD; David Scheinberg, MD, PhD
Targeted immunotherapeutic approaches to cure multiple myeloma	Guenther Koehne, MD, PhD; David Chung, MD, PhD; C. Ola Landgren, MD, PhD; Alexander Lesokhin, MD
Multi-modality treatment of pancreatic ductal adenocarcinoma (PDAC)	Jason Lewis, PhD; Peter Allen, MD; Jan Grimm, PhD; Christine Iacobuzio-Donahue, MD, PhD; Kayvan Keshari, PhD; Steven Leach, MD; Thomas Reiner, PhD
Developing curative therapies for BRAF and NRAS mutant tumors	Neal Rosen, MD, PhD; David Solit, MD
Changing the natural history of metastatic	Neal Rosen, MD; Paul Chapman, MD; David

Project	Investigator(s)
melanoma with multimodality therapy	Solit, MD; Scott Lowe, PhD; Jedd Wolchok, MD, PhD
Development of therapeutic strategies that change the natural history of tumors with mutant RAS	Neal Rosen, MD, PhD; Scott Lowe, PhD; David Solit, MD; Barry Taylor, PhD; Jedd Wolchok, MD, PhD
Towards a cure for prostate cancer	Charles Sawyers, MD; Jason Lewis, PhD; Dana Rathkopf, MD; Michael Zelefsky,MD
Innovations in the structures, functions and targets of monoclonal antibody-based drugs for cancer	David Scheinberg, MD, PhD; Renier Brentjens, MD, PhD; Steven Larson, MD; Hans-Guido Wendel, MD
Curing ovarian cancer through early detection and personalized treatment	David Spriggs, MD; Carol Aghajanian, MD; Douglas Levine, MD; Paul Sabbatini, MD

Multidisciplinary Team Research

Project	Investigator(s)
Quillaja saponin adjuvants in carbohydrate conjugate cancer vaccines	David Gin, PhD; Adam Boruchov, MD; Paul Chapman, MD; Govind Ragupathi, PhD and Jim Young, MD
Cellular target discovery and therapeutic agents — Proteases as targets for cancer therapy	Yueming Li, PhD; David Scheinberg, MD, PhD; Xuejun Jiang, PhD and Johanna Joyce, PhD
Non-invasive imaging and monitoring of tumor hypoxia	Clifton Ling, PhD; Jason Koutcher, MD, PhD; John Humm, PhD; Pat Zanzonico, PhD; Joseph O’Donoghue, PhD; and Ronald Finn, PhD
Development of active and adoptive immunotherapy of ovarian cancer targeting MUC16 and WT1	Philip Livingston, MD and Richard O’Reilly, MD

Project	Investigator(s)
Development of rational strategies for anti-cancer therapy based on inhibition of signaling through the Ras and PI3kinase signaling pathways — Combined inhibition of Raf/MEK/MAPK and PI3K/AKT signaling for the treatment of cancer	Neal Rosen, MD, PhD; PhD; Charles Sawyers, MD; David Solit, MD; and David Spriggs, MD
Targeting tumors with genetically enhanced T lymphocytes	Michel Sadelain, MD, PhD; Prasad Adusumilli, MD; Renier Brentjens, MD, PhD; Vladimir Ponomarev, MD, PhD; Isabelle Riviere, PhD; Susan Slovin, MD, PhD
Functional and advanced anatomic techniques for response assessment in solid tumors	Lawrence Schwartz, MD and Robert Motzer, MD
An integrated multidisciplinary approach to developing new treatments for advanced prostate cancer	Derek Tan, PhD; Gabriela Chiosis, PhD; Yueming Li, PhD; Neal Rosen, MD, PhD and Howard Scher, MD
Identification of cell cycle related kinase inhibitors for cancer therapy	Archie Tse, MD, PhD and David Spriggs, MD
Immunotherapy of cancer: Development of cancer vaccines, adoptive cellular therapies, immune modulation and combination immunotherapies	Marcel van den Brink, MD, PhD; Ronald Blasberg, MD; Bo Dupont, MD, DSc; Alan Houghton, MD; Robert Jenq, MD; Steve Larson, MD; Jedd Wolchok, MD, PhD

Clinical Investigations

Project	Investigator(s)
A phase I trial of malignant pleural mesothelioma treated with autologous T cells genetically targeted to the cancer cell	Prasad Adusumilli, MD

Project	Investigator(s)
A Phase 1a/1b Trial to Assess Safety and Bioactivity of Intrathecal Deferoxamine in Patients with Leptomeningeal Metastases from Non Small Cell Lung Cancer	Adrienne Boire, MD, PhD
Experimental Therapeutics Clinical Treatment Unit	Richard Carvajal, MD
Vaccination of pancreatic cancer patients against mutated K-ras	Paul Chapman, MD
Biologic correlates in a phase I/II study of humanized 3F8 bispecific antibody (hu3F8-BsAb) in patients with relapsed/refractory neuroblastoma, osteosarcoma, and other GD2(+) solid tumors	Nai-Kong Cheung, MD, PhD
Clinical investigation of Zelavespib in relapsed/refractory AML with antecedent MPN and/or post-allo	Gabriela Chiosis, PhD
Clinical translation of PU-H71, a small molecule Hsp90 inhibitor	Gabriela Chiosis, PhD
Langerhans-type dendritic cell vaccination as consolidation for multiple myeloma after autologous stem cell transplantation	David Chung, MD, PhD
Circulating tumor cells in patients with metastatic prostate cancer: Development of predictive biomarkers for sensitivity to androgen receptor targeted treatment sensitivity	Daniel Danila, MD and Howard Scher, MD
The Development of a Novel AML-directed CAR T Cell Capable of Bystander Tumor Killing	Anthony Daniyan, MD
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Project	Investigator(s)
Preclinical and clinical evaluations of first-generation recombinant modified vaccinia virus Ankara (MQ710) for the treatment of anaplastic thyroid cancer and other solid tumors	Liang Deng, MD, PhD
Targeting Lewis Y in small cell lung cancer using the humanized monoclonal antibody, hu3S193	Chaitanya Divgi, MD
Cardenolides as novel agents for the treatment of retinoblastoma	Hakim Djaballah, PhD and David Abramson, MD
Radioimmunotherapy, reduced-dose radiation therapy, and chemotherapy for medulloblastoma	Ira Dunkel, MD and Kim Kramer, MD
Iso-fludelone, a novel epothilone: First in human phase 1 trial	Mrinal Gounder, MD and Naiyer Rizvi, MD
Assessing the continual reassessment method as a phase I design by comparing it to the standard dose escalation scheme	Alexia Iasonos, PhD
Pilot trial ^{89}Zr-trastuzumab-PET as pharmacodynamic marker in patients with HER2-positive esophagogastric cancer	Yelena Janjigian, MD
Hyperpolarized pyruvate MR imaging of prostate cancer	Kayvan Keshari, PhD
Comparative analyses of WT1 expression and WT1 antigen-specific T-cell frequencies in patients with plasma cell leukemia following treatment with donor-derived Wilms tumor antigen-specific T lymphocyte infusions	Guenther Koehne, MD, PhD
Development of KSR phosphorothioate antisense oligonucleotides for phase I clinical	Richard Kolesnick, MD

trial

Project	Investigator(s)
A phase I study of convection-enhanced delivery of 124I-8H9 for patients with non-progressive diffuse pontine gliomas previously treated with external beam radiation therapy	Kim Kramer, MD
Phase I study of intrathecal 131-I-8H9 for central nervous system and leptomeningeal malignancies	Kim Kramer, MD
Pilot trial of a tetravalent KLH conjugate vaccine against small cell lung cancer	Lee Krug, MD
Targeting small cell lung cancer with an Ac-labeled antibody to the ganglioside GD2	Lee Krug, MD
Phase I trial of a tetravalent vaccine with escalating doses of the immunological adjuvant QS-21, in combination with oral beta-glucan for high-risk neuroblastoma	Brian Kushner, MD
A Phase I Dose Escalation Study of ESK1-Bispecific T-cell Engager (ESK-TCE) Antibody Targeting WT1 for the Treatment of Patients with Recurrent Ovarian Cancers	Chrisann Kyi, MD
Clinical and molecular-metabolic phase II trial of perifosine for recurrent/progressive malignant gliomas	Andrew Lassman, MD
Combination of targeted radiotherapy and anti-angiogenesis for resistant neuroblastoma	Shakeel Modak, MD
Lutetium-177 radiolabeled anti-prostate specific membrane antigen antibodies and its	Michael Morris, MD

relationship to tumor-absorbed radiation dose

Project	Investigator(s)
Quantitative PET imaging with yttrium-86 radiolabeled humanized anti-prostate specific membrane antibody J591 for dosimetric evaluation of yttrium-90-huJ591 therapy	Michael Morris, MD
Targeted radioimmunotherapy using Ley as a target in castrate metastatic prostate cancer	Michael Morris, MD
Prostate specific membrane antigen vaccine in prostate cancer	Luke Nordquist, MD
Preclinical and clinical development of 10-propargyl-10-deazaaminopterin (PDX) in relapsed or refractory aggressive non-Hodgkin's lymphomas	Owen O'Connor, MD, PhD
A phase I clinical trial of a new targeted therapy for the treatment of metastatic pancreatic cancer	Eileen O'Reilly, MD
Cytokine Secreting CAR T-Cell Therapy for Treatment of Leukemia	Jae Park, MD
GM-CSF DNA vaccine in melanoma	Miguel Perales, MD
Phase 1 study of humanized 3F8 monoclonal antibody (Hu3F8) when combined with interleukin-2 in patients with high-risk neuroblastoma and GD2-positive solid tumors	Stephen Roberts, MD
Augmented PSMA CAR therapy for castrate-resistant, metastatic prostate cancer	Michel Sadelain, MD, PhD and Susan Slovin, MD, PhD
Preparation of a peptide vaccine for chronic myelogenous leukemia	David Scheinberg, MD, PhD

Project	Investigator(s)
Biomarker development in patients with metastatic prostate cancer: Assays for androgen receptor signaling pathway in circulating tumor cells	Howard Scher, MD
Therapeutic response assessment in clinical trials: Development of tools for precise quantitative image analysis	Lawrence Schwartz, MD
Synthesis of 150 grams of PDX	Francis Sirotnak, PhD
Phase I trial of mouse TRP-2 DNA vaccine for patients with melanoma	Jedd Wolchok, MD, PhD
Alemtuzumab treatment of steroid-refractory acute graft-versus-host disease	James Young, MD

Drug Discovery and Development

Project	Investigator(s)
Synthetic introns to enable mutation-dependent targeting of cancer cells	Omar Abdel-Wahab, MD
Imaging the efficacy of TRAIL-enhanced cancer immunotherapy	Prasad Adusumilli, MD and Vladimir Ponomarev, MD, PhD
Small molecule degrader of HMGCS1 to harness the mevalonate pathway in cancer	Heeseon An, PhD
Self-immolative tumor-targeted nanogenerators	Christophe Antczak, PhD
Imiquimod analogs as new cancer immunotherapy agents	Daniel Bachovchin, PhD

Project	Investigator(s)
New DPP8/9-binding ligands for the treatment of acute myeloid leukemia	Daniel Bachovchin, PhD
Induction of pyroptosis for cancer monocytic/macrophage lineage	Daniel Bachovchin, PhD
Peptidase Inhibitors as New Cancer Immunotherapy Agents	Daniel Bachovchin, PhD
ID protein degradation as a therapeutic strategy for advanced cancers	Robert Benezra, PhD; James Harding, MD
Tumor endothelial cell-specific inhibitor for Id-proteins	Robert Benezra, PhD
Over expression of asmase in endothelial stem cells by lentiviral vector delivery	Nira Bloom, PhD
Expression and modulation of Fcγ receptors on human dendritic cells for targeted immunotherapy	Adam Boruchov, MD
Mesoporous silica nanoparticles as drug delivery vehicles in a PDGFB-driven murine high grade glioma model	Michelle Bradbury, MD, PhD
Construction and characterization of retroviral vectors encoding genes capable of generating both primary and efficient co-stimulatory signals to T cells for use in the adoptive immunotherapy of B cell malignancies	Renier Brentjens, MD, PhD
Development and characterization of novel inhibitors of JAK kinases	Jacqueline Bromberg, MD, PhD

Project	Investigator(s)
Induction of natural EGFR inhibitors	Luca Cartegni, PhD
Therapeutic modulation of alternative splicing	Luca Cartegni, PhD
Overcoming CDK4/6 inhibitor resistance	Sarat Chandarlapaty, MD, PhD
Therapeutic targeting of Gαq pathway in uveal melanoma	Yu Chen, PhD
Development of small molecule inhibitors of MCL-1 for cancer therapy	Emily Cheng, PhD
Using Self-Assembling DisAssembling (SADA) Platform in Pretargeted Radioimmunotherapy and DNA Damage Repair Inhibitors to Enhance Immunogenic Cell Death	Nai-Kong Cheung, MD, PhD
Dual specific human monoclonal antibody targeting IGF-I and IGF-II for treating cancer in children	Nai-Kong Cheung, MD, PhD
Multistep targeting of GD2 using DOTA hook	Nai-Kong Cheung, MD, PhD
Optimizing radioimmunotherapy delivered through cerebrospinal fluid: Testing affinity-matured scFv constructs in xenograft models	Nai-Kong Cheung, MD, PhD
Humanized antibody targeting CSPG4 on melanoma	Nai-Kong Cheung, MD, PhD
SADA DOTA-PRID and SADA DOTA-PRIT for incurable cancers	Nai-Kong Cheung, MD, PhD; Darren Veach, PhD
T cell-engaging bispecific antibody (TCE bsAb) therapeutics in DLK1-positive cancer	Ping Chi, MD, PhD

Project	Investigator(s)
Therapeutic and diagnostic targeting of DLK1 in cancer	Ping Chi, MD, PhD
Development of the epichaperome inhibitor LSI-137	Gabriela Chiosis, PhD
Novel compounds inhibiting Hsp90	Gabriela Chiosis, PhD and Neal Rosen, MD, PhD
Development of novel Hsp70 ATPase activity modulators	Gabriela Chiosis, PhD
PU24FCl, a novel selective Hsp90 inhibitor	Gabriela Chiosis, PhD
Bcr-Abl substrates and inhibitors	Bayard Clarkson, MD
Leptin receptor as a target to eradicate CML tumor initiating cells	Bayard Clarkson, MD
Design of molecular glue degraders to selectively target ERK2 over ERK1	Arvin Dar, PhD
Development of D-peptide inhibitors of oncogenic KRAS mutants	Samuel Danishefsky, PhD
Testing the immunogenicity of a new unimolecular hexavalent vaccine in combination with the novel synthetic saponin adjuvant SQS-1-0-5-5	Samuel Danishefsky, PhD
Cell migration inhibition: synthesis and evaluation of migrastatin and analogues for the identification of a novel chemotherapeutic	Samuel Danishefsky, PhD
Preparation of multiple drug reversal agent 5-N-	Samuel Danishefsky, PhD

Project	Investigator(s)
Preparation of multiple drug reversal agent 3-N-acetyl-ardeemin and some active analogues	Samuel Danishefsky, PhD
Synthesis and evaluation of a novel unimolecular multiantigenic vaccine against breast cancer	Samuel Danishefsky, PhD
Telomerase inhibition: Synthesis and evaluation of UCS1025A and analogues for the identification of a novel chemotherapeutic	Samuel Danishefsky, PhD and Malcolm Moore, D.Phil.
Development of an AML-directed dual-targeted CAR T cell	Anthony Daniyan, MD
Targeting DJ-1 for cancer therapy	Yael David, PhD
Synthesis of a multi-scaffold library for high-throughput screening for novel inhibitors of androgen receptor signaling	Christine DiBlasi, PhD
Synthetic study on proteasome inhibitor salinosporamide A	Atsushi Endo, PhD
Novel enhancement strategies for cancer DNA vaccines: Epitope optimization and fusion vectors	Manuel Engelhorn, PhD
Development of reagents to antagonize ceramide-mediated raft clustering in vivo	Zvi Fuks, MD
High throughput screening of specific inhibitors for kinase suppressor of Ras1 (KSR1)	Zvi Fuks, MD
ASMase gene therapy for radiosensitization	Zvi Fuks, MD and Richard Kolesnick, MD
Preclinical development of anti-ceramide	Zvi Fuks, MD

monoclonal antibodies

Project	Investigator(s)
Preclinical evaluation of KSR phosphorothioate antisense oligonucleotides in treating gf Ras-dependent human malignancies	Zvi Fuks, MD and Richard Kolesnick, MD
The development of highly concise routes to epothilones in the context of the chemical synthesis of the promising antitumor agent 4-desmethyl-12,13-desoxyEpothilone B	Ana Gabarda Ortega, PhD
L1CAM targeting 1xx CAR T cells for advanced solid tumors	Karuna Ganesh, MD, PhD
Targeting hematopoietic stem cells with lipid nanoparticles to potentiate cancer immunotherapy	Alexander Gitlin, MD, PhD
Design of small molecules that trigger secretion of neoantigen: Chaperone complexes	Jonathan Goldberg, PhD
Mechanism of TEM8 in increasing CD8 T cell responses	Polly Gregor, PhD
ROS-activatable prodrug of Doxazoline	Jan Grimm, MD, PhD
Clinically approved nanoparticles as environmental-responsive self reporting drug delivery system	Jan Grimm, MD, PhD
Multimodality theranostics of pancreas cancer	Jan Grimm, MD, PhD
Gene expression profiling to identify therapeutic targets in chronic lymphocytic leukemia	Mark Heaney, MD, PhD
In Situ CAR T cell engineering for treatment of	Daniel Heller, PhD

Project	Investigator(s)
In Situ CAR T cell engineering for treatment of high grade serous ovarian cancer	Daniel Heller, PhD
Targeted nanoformulation and delivery strategy to improve the utility of PROTACS	Daniel Heller, PhD
Nanoscale bio-imaging	Daniel Heller, PhD
ZIC1: Therapeutic target and predictor of outcome in adult male germ cell tumors	Jane Houldsworth, PhD
Biodistribution and radiobiological effectiveness of 225Ac and 213Bi for alpha-particle radioimmunotherapy	John Humm, PhD
Targeting isocitrate dehydrogenase mutations by enzyme hyperactivation	Andrew Intlekofer, MD, PhD
Novel combination therapies for ER+/HER2- breast cancer	Xuejun Jiang, PhD
Identification of chemical inhibitors of the ULK1 kinase complex	Xuejun Jiang, PhD and Derek Tan, PhD
Development of novel therapies for endometrial carcinomas	Xuejun Jiang, PhD; Neal Rosen, MD, PhD
Identification and characterization of small molecule inhibitors of Apaf-1/Cytochrome c-mediated apoptosis	Xuejun Jiang, PhD and Derek Tan, PhD
Targeting the PTEN ubiquitin ligase NEDD4 with a novel electrophilic fragment library	Xuejun Jiang, PhD and Derek Tan, PhD
Protein corona engineered lipid nanoparticle (PRO-LNP) for targeted macromolecular drug	Alex Kentsis, MD, PhD

delivery

Project	Investigator(s)
A modular platform for cell specific macromolecular drug delivery	Alex Kentsis, MD, PhD
Chemical library screen for musashi inhibitors	Michael Kharas, PhD
Inhibition of MSI translation in MSI driven leukemias	Michael Kharas, PhD
Tunable peptidomimetic nanoconjugates for cancer gene control	Alex Kentsis, MD, PhD
Metabolic engineering to enhance CAR T cell therapy	Kayvan Keshari, PhD
IL10 blockade as a novel immunotherapy across solid cancers	Danny Khalil, MD, PhD
Molecular glues targeting stem cell/immuno oncologic programs in cancer	Michael Kharas, PhD
Developing MUSASHI RNA binding protein inhibitors to target cancer	Michael Kharas, PhD
Raman nanostar-triggered automated laser ablation device	Moritz Kircher, MD, PhD and Ricardo Toledo-Crow, PhD
ENT1 requres ceramide-rich platforms to transport nucleoside chemotherapeutics	Richard Kolesnick, MD
C16:0 ceramide nano-liposomes reverse multi-drug resistance	Richard Kolesnick, MD
Sphingolipid-based anti-angiogenic chemosensitization	Richard Kolesnick, MD

chemosensitization

Project	Investigator(s)
Acid sphingomyelinase is obligate for gemcitabine action	Richard Kolesnick, MD
Small animal imaging and spectroscopy	Jason Koutcher, MD PhD
Leveraging living drugs for tumor-targeted radiotherapy	Simone Krebs, MD
Pre-clinical development of a novel class of proteasome inhibitors	Marc Ladanyi, MD
Improved detection of abl, c-kit, src and PDGFRα expressing tumors using a combination of positron labeled EGFR tyrosine kinase inhibitors and “stealth” nanocarriers	Steve Larson, MD
Ac-225 DOTA Proteus for Pre-targeted Radioimmunotherapy (PRIT) of solid tumors	Steven Larson, MD
Alpha and Beta Pre-targeted Radioimmunotherapy for Peritoneal Carcinomatosis	Steven Larson, MD
Targeting FGFR3 oncogenic mutation for theranostics	Jason Lewis, PhD
Statins to Enhance Pretargeted Radioimmunotherapy of HER2-expressing Esophagogastric Tumors	Jason Lewis, PhD
Amplifying the efficacy of pretargeted radioimmunotherapy (PRIT) in pancreatic cancer	Jason Lewis, PhD
Radiosensitization of malignant gliomas by gene	Gloria Li, PhD and Philip Gutin, MD

therapy

Project	Investigator(s)
Targeted delivery of attenuated interleukin-15 for ILC1-mediated cancer immunotherapy	Ming Li, PhD
Targeting TGF-β signaling in CD4+ T cells for cancer immunotherapy	Ming Li, PhD
Development of lysosomal inhibitors for pancreatic cancer treatment	Yueming Li, PhD
Development of the autophagy-lysosome pathway blockers for pancreatic cancer treatment	Yueming Li, PhD
Development of sulfonamide γ-secretase inhibitors for cancer therapy	Yueming Li, PhD
Preclinical studies of sulfonamide γ-secretase inhibitors for cancer therapy	Yueming Li, PhD
γ-Secretase: Target validation and inhibitor development	Yueming Li, PhD
Target notch signal pathway in B-cell neoplasm	Yueming Li, PhD
Identification and characterization of small molecule enhancers of GTPase activity	Piro Lito, MD
Advancing uPAR CAR T cells towards clinical trials in cancer	Scott Lowe, PhD
Harnessing senolytic CAR T cell based therapies for the treatment of solid tumors	Scott Lowe, PhD
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Project	Investigator(s)
Targeting p53-regulated metabolism for anti-leukemia therapy	Scott Lowe, PhD
Advancing CARM1 Inhibitors as Preclinical Candidates Against Metastatic Breast Cancer	Minkui Luo, PhD
Developing mechanism-based protein arginine methyltransferase inhibitors as anti-cancer reagents	Minkui Luo, PhD
Develop protein methyltransferase inhibitors as anti-cancer drugs	Minkui Luo, PhD
High-throughput screening for SETMAR inhibitors: Develop protein methyltransferase inhibitors as anticancer drugs	Minkui Luo, PhD
High throughput screening for SETMAR inhibitors	Minkui Luo, PhD
TREX1 exonuclease inhibitor to improve antitumor immunity	John Maciejowski, PhD
Synthesis of polyketide-like small molecule libraries	Daniel Macks, PhD
Effect of histone deacetylase inhibitors on normal and transformed prostate cells	Paul Marks, PhD
Monitoring molecular biomarkers in human cancer	Peter Maslak, MD
Targeting CDH5 and simultaneously treating PSMA-positive and PSMA-negative prostate cancer with alpha particle therapy	Michael McDevitt, PhD

Project	Investigator(s)
Camelid antibodies armed with alpha particles and directed at enzalutamide-treated prostate cancer	Michael McDevitt, PhD
A self-assembling synthetic clot to specifically infarct tumor tissue in vivo	Michael McDevitt, PhD
RNAi prophylaxis of chemotherapy-induced nephrotoxicity	Michael McDevitt, PhD
Optimizing EGFR Blockade in Human Glioblastoma	Ingo Mellinghoff, MD
Evaluation of epothilone analogs, synthetic microtubule stabilizing agents with potent anti-myeloma and anti-ovarian cancer action	Malcolm Moore, D.Phil.
Murine tumor xenograft models for preclinical drug development	Malcolm Moore, D.Phil.
Targeting activated ADAM17 for the treatment of epithelial ovarian cancer	Dimitar Nikolov, PhD
Function blocking antibodies against ADAM metalloproteases for inhibition of Eph, EGFR and Notch-dependent tumorigenesis	Dimitar Nikolov, PhD
Small-molecule inhibitors of Eph receptor signaling	Dimitar Nikolov, PhD
Single-chain anti-EphA2 antibodies for treatment of lymphoma and leukemia	Dimitar Nikolov, PhD
Real time polymerase chain reaction (PCR) for clinical and correlative studies	Stephen Nimer, MD

Project	Investigator(s)
The role of arginine methyltransferases in the pathogenesis of myeloid malignancies	Stephen Nimer, MD
DNA vaccines against breast cancer: Synergy through targeting both tumor cells and tumor stroma	Francesca Orlandi, PhD
Chemical synthesis in carbohydrate-based cancer vaccines	Ouathek Ouerfelli, PhD
Overcoming acquired resistance to targeted therapy in lung cancer	William Pao, MD, PhD
Development of Gboxin, a benzimidazolium compound, as an antitumor reagent	Luis Parada, PhD
Protein chip biology system for high-thoughput screening	Gavril Pasternak MD, PhD
Sigma receptors: a novel anti-proliferative target for tumor therapy	Gavril Pasternak, MD, PhD
Structure activity of the sigma$_1$ antagonist binding pocket	Gavril Pasternak, MD, PhD
Development of potent small molecule inhibitors of the cGAS-STING dsDNA-sensing immune pathway	Dinshaw Patel, PhD
Development of small molecule inhibitors of METTL3-METTL14 RNA methyltransferase complex as drugs against acute myeloid leukemia	Dinshaw Patel, PhD
T-cell precursors and allogeneic hematopoietic	Miguel Perales, MD

stem cell transplant

Project	Investigator(s)
SKI-N69: A candidate radiosensitizer	John Petrini, PhD
Modulation of DNA damage signaling pathways	John Petrini, PhD
Targeted synthetic immunity for activating site specific anti-tumor innate immune response	Nagavarakishore Pillarsetty, PhD
Site specific activation of γδ T cells for cancer immunotherapy applications	Nagavarakishore Pillarsetty, PhD
Targeted nuclear delivery of EGF-Auger emitting radioconjugates for cancer therapy	Nagavarakishore Pillarsetty, PhD
Genetically engineered CAR T cells for antigen-heterogeneous prostate cancer	Vladimir Ponomarev, MD, PhD
Tumor antigen-directed molecular imaging to strategize T-cell immunotherapy	Vladimir Ponomarev, MD, PhD
Evaluation of endothelial cell apoptosis in human cancer specimens in response to ionizing radiation	Elizabeth Poyner, MD, PhD
Novel structure derivatives of trehalose dimycolate as cancer vaccine adjuvants	Vivek Rao, PhD
Imaging of the Peripheral Nervous System	Thomas Reiner, PhD
Preclinical Testing of Hedgehog Inhibitors in Pancreatic Cancer	Marilyn Resh, PhD
Identification of hedgehog palmitoylation inhibitors	Marilyn Resh, PhD

Project	Investigator(s)
Efficacy testing of TDI-3410, a Hedgehog Acyltransferase inhibitor, in mouse models of lung, breast and pancreatic cancer	Marilyn Resh, PhD
Targeting eIF4A in metastatic estrogen receptor positive breast cancer	Ezra Rosen, MD, PhD
Development and in vivo evaluation of clinical retroviral vectors designed to express high levels of mutant HSV thymidine kinase to increase the safety of T lymphocyte infusions	Isabelle Riviere, PhD
Development of improved TORC1 inhibitor-based therapies for the treatment of breast cancer and other carcinomas	Neal Rosen, MD, PhD; Daniel Heller
Development of improved TORC1 inhibitor-based therapies for the treatment of breast cancer and other carcinomas	Neal Rosen, MD, PhD; Daniel Heller
Development of combined inhibition of ERK and PI3K/AKT signaling as a strategy for the treatment of mutant RAS-dependent tumors	Neal Rosen, MD, PhD
DLL3 radioimmunoconjugates for high-grade neuroendocrine tumor imaging and therapy	Charles Rudin, MD, PhD
Design of combinatorial therapeutics	Chris Sander, PhD
Preclinical development of the anti-androgen A52 for prostate cancer therapy	Charles Sawyers, MD
Therapeutic self-assembling nanodevices	David Scheinberg, MD, PhD
Radiotherapy with targeted multivalent α-particle	David Scheinberg, MD, PhD

generators

Project	Investigator(s)
Development of novel inhibitors of SCCRO	Bhuvanesh Singh, MD
A novel class of peptidomimetic agents targeting tumor growth, angio-genesis, and metastases	Francis Sirotnak, PhD and David Scheinberg, MD, PhD
Modulation of chemotherapy sensitivity by alterations in PTEN/AKT signaling	David Solit, MD
Characterization of an RNA binding protein targeted by thalidomide analogues	David Spriggs, MD
MUC16 synthetic lethal screening in ovarian cancer	David Spriggs, MD
Development of novel menin inhibitors for glioma therapy	Viviane Tabar, MD
pdfSEAKER: Development of CAR T cells that express human peptide deformylase (hsPDF) to activate synergistic small-molecule prodrugs locally at tumors	Derek Tan, PhD
onSEAKER: Engineering CAR T cells to biosynthesize synergistic small molecule drugs in situ	Derek Tan, PhD
Targeted delivery of epigenetic small-molecule drugs by SEAKER cells	Derek Tan, PhD
A novel CAR T-cell platform for targeted, local biosynthesis of small-molecule therapeutics	Derek Tan, PhD
Studying Chk1-mediated signaling pathways using chemical genetics and functional imaging	Archie N. Tse, MD, PhD

using chemical genetics and functional imaging

Project	Investigator(s)
Identification of novel small molecules with anti-proliferative action towards human lung cancer cell lines harboring oncogenic EGFR or KRAS	Harold Varmus, MD
ESSENCE compounds as tools for specific modulation of alternative splicing patterns	Sandra Vorlova, PhD
Development of NDR1/STK38 inhibitors in collaboration with the Tri-I TDI	Hans-Guido Wendel, MD
The oncogenic action of NRF2 depends on de-glycation by Fructosamine-3-kinase	Hans-Guido Wendel, MD
Defining the mechanism underlying GITR agonist activity	Jedd Wolchok, MD, PhD
Isolation TCRm modalities with broad reactivity to KRAS-HLA complex	Xinbo Yang, PhD
TMC-95A analogues as potential antitumor agents	Zhi-Qiang Yang, PhD
Controlled rate freezer for preclinical laboratory studies	James Young, MD
Janus kinase 2 (JAK2) as a therapeutic target in graft-versus-host disease	James Young, MD and Brian Betts, MD
Reversal of indoleamine 2,3-dioxygenase (IDO)-mediated suppression of tumor immunity stimulated by human dendritic cells	James Young, MD