A01  Metabolic requirements of breast cancer cells undergoing epithelial-mesenchymal transition. Alexander Muir. Massachusetts Institute of Technology, Cambridge, MA.

A02  Elevated glucose metabolism inhibits DNA repair to promote genomic instability. Alexandra Ciminera. City of Hope, Duarte, CA.

A03  Integrative cross-platform analyses identify enhanced heterotrophy as a metabolic hallmark in glioblastoma. Antony Prabhu. Beaumont Health, Royal Oak, MI.

A04  Mapping heterogeneity in glucose uptake in metastatic melanoma using quantitative 18F-FDG PET/CT analysis. Ellen de Heer. University Medical Center Groningen, Groningen, The Netherlands.

A05  Molecular targeting CD206+ tumor associated macrophages in early stage of metastasis. Hyewon Chung. Department of Microbiology and Immunology, Institute of Endemic Disease, College of Medicine, Seoul National University, Seoul, Republic of Korea.

A06  Impairment of maturation and activation of the hepatocytes growth factor receptor upon glucose depletion. Irina Titkova. German Cancer Research Center (DKFZ), Heidelberg, Germany.


A09  Mechanical regulation of glycolysis. Jin Suk Park. UT Southwestern Medical Center, Dallas, TX.

A10  LSR contributes to the metabolic plasticity and behavior of mammary epithelial and breast cancer cells by regulating lipid uptake and cellular metabolism. Jodie Fleming. North Carolina Central University, Durham, NC.

A11  Novel correlation-based network analysis of breast tumor metabolism identifies the glycerol channel protein Aquaporin-7 as a regulator of breast cancer progression. Laurie Littlepage. University of Notre Dame, Notre Dame, IN.

A12  Acid suspends the circadian clock in hypoxia through inhibition of mTOR. Zandra Walton. University of Pennsylvania, Philadelphia, PA.

A14  Tumor-intrinsic metabolic changes in Keap1 mutant lung cancer drive immune evasion. Anastasia Maria Zavitsanou. NYU School of Medicine, New York, NY.

A15  Human CLYBL “knockouts” provide new insights into host-pathogen metabolic interaction. Hongying Shen. Massachusetts General Hospital, Boston, MA.

A16  Epstein-Barr virus induces mitochondrial one-carbon metabolism to support B-cell transformation. Liang Wei. Harvard Medical School, Boston, MA.

A17  PD-L1 is upregulated in the adipose tissue of tumor-bearing mice. Max Heckler. Dana Farber Cancer Institute, Boston, MA.

A19  Mutant p53 regulates LPA signaling through lysophosphatidic acid phosphatase type 6. Agnieszka Chryplewicz. The University of Chicago, Chicago, IL.

A20  Metabolic regulation of oxidative stress in metastasizing melanoma cells. Arin Aurora. UT Southwestern, Dallas, TX.

A21  Using clear cell like-RenCa and papillary like-RenCa models of kidney cancer to study metabolic influences on the microenvironment and metastasis. Bradley Reinfeld. Vanderbilt University School of Medicine, Nashville, TN.

A22  Chronic nutrient stress increases cancer cell invasion and metastasis through ATF4-dependent induction of Slug. Bryan King. Memorial Sloan Kettering Cancer Center, New York, NY.

A23  Chromosomal instability drives metastasis through a cytosolic DNA response. Bryan Ngo. Weill Cornell Medical College, New York, NY.

A24  Expression of glycolytic-related proteins in locally advanced breast carcinoma submitted to neoadjuvant chemotherapy. Céline Pinheiro. Barretos Cancer Hospital, Barretos, SP, Brazil.


A26  Metabolic requirements for cell migration in confined 3D environments. Emily Bell. Pennsylvania State University, University Park, PA.

A27  FBP1 deficiency accelerates liver tumorigenesis via a hepatic stellate cell secretome targeted by senolytics. Fuming Li. Abramson Family Cancer Research Institute, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA.

A28  Metabolic adaptations reveal epigenetic vulnerabilities in chemotherapy-resistant breast cancer. Genevieve Deblois. Princess Margaret Hospital Cancer Research Centre, Toronto, ON, Canada.

A30 Undruggable catabolic flexibility enhances oxidative phosphorylation activity and drug resistance but induces higher mitochondrial dependency and vulnerability in IDH1 mutant leukemia. Jean-Emmanuel Sarry. INSERM, Cancer Research Center of Toulouse, Toulouse, France.

A31 HAT1 drives a gene-metabolite circuit that links nutrient metabolism to histone production. Joshua Gruber. Stanford University, Stanford, CA.


A34 Unraveling the linkage between solute carriers and chromatin remodeling. Kai-Chun Li. CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences, Vienna, Austria.

A35 Nicotinamide N-methyltransferase (NNMT) metabolically reprograms the epigenome of the ovarian cancer microenvironment. Mark Eckert. The University of Chicago, Chicago, IL.

A36 Pan-HDAC inhibition reverses the Warburg effect and leads to metabolic vulnerabilities in glioblastoma model systems. Markus Siegelin. Columbia University, New York, NY.

A37 Loss of promoter methylation in glycolytic genes is associated with aggressiveness in IDH1-mutant lower grade gliomas. Mioara Larion. National Institutes of Health, Bethesda, MD.

A38 Serine hydroxymethyltransferase (SHMT2) is a metabolic driver of lymphomagenesis. Sara Parsa. Memorial Sloan Kettering Cancer Center, New York, NY.


A40 Gastric cancer differs in the degree of utilization of various carbon sources attributing to the aggressiveness. Bo Kyung Yoon. Yonsei University College of Medicine, Seoul, Republic of Korea.

A41 The pentose phosphate pathway is sufficient to maintain serine synthesis independently of glycolysis. Chendong Yang. UT Southwestern Medical Center at Dallas, Dallas, TX.

A42 Iron sulfur cluster deficiency directly activates IRP2 via increased stability and RNA binding. Erdem Terzi. New York University School of Medicine, New York, NY.

A43 Microenvironmental inhibition of triglyceride hydrolysis by HILPDA supports tumor growth. Ioanna Papandreou. The Ohio State University, Columbus, OH.

A44 Phosphatidylinositol-5-phosphate 4-kinases regulate cellular lipid metabolism by facilitating autophagy. Mark Lundquist. Meyer Cancer Center, New York, NY.
A45 Deficiency of tumor suppressor Merlin facilitates metabolic adaptation by co-operative engagement of SMAD-Hippo signaling in breast cancer. Mateus Mota. University of Alabama at Birmingham, Birmingham, AL.

A46 A GCN2-mediated translational program induces lysosome biogenesis in amino acid-deprived cells. Michel Nofal. Princeton University, Princeton, NJ.

A47 Identification of an oncogenic transcription factor promoting liposarcoma oxphos metabolism through a natriuretic peptide/NPRA autocrine pathway. Norifumi Tsubokawa, Memorial Sloan Kettering Cancer Center, New York, NY.

A48 Regulation of cancer cell metabolism via the thyroid hormone analogue receptor on integrin alphavbeta3: Actions of P-bi-TAT (tetrac-PEG) at the receptor. Paul Davis. Department of Medicine, Albany Medical College; Pharmaceutical Research Institute, Albany College of Pharmacy and Health Sciences, Albany, NY.

A49 PKM2-mediated upregulation of serine synthesis pathway enables leukemic cells to proliferate in fructose-rich culture conditions. Sangmoo Jeong. Memorial Sloan Kettering Cancer Center, New York, NY.

A50 Targeting of mitochondrial bioenergetics by shikonin as a treatment for acute myeloid leukemia. Alessia Roma. University of Guelph, Guelph, ON, Canada.


A52 mTORC1 couples nucleotide synthesis to nucleotide demand resulting in a targetable metabolic vulnerability. Alexander Valvezan. Harvard School of Public Health, Boston, MA.

A53 Modulation of sodium-hydrogen exchangers improves chemotherapy response and suppresses invasion in osteosarcoma. Andrew Poon. Ontario Veterinary College, University of Guelph, Guelph, ON, Canada.

A54 Characterizing the metabolic effects of exogenous ketone supplementation— an alternative or adjuvant to the ketogenic diet. Angela Poff. University of South Florida, Tampa, FL.

A55 Role of glutathione in tumor growth and chemoresistance in clear-cell renal cell carcinoma. Ankita Bansal. Perelman School of Medicine, University of Pennsylvania, Abramson Family Cancer Research Institute, Philadelphia, PA.

A56 Differences in substrate oxidation of human glioma cells and their correlation to IDH mutation status and aggressiveness. Anna Sebestyén. 1st Department of Pathology and Experimental Cancer Research, Semmelweis University, Budapest, Hungary.


A59 Inhibitors identified by structure-based virtual screening target glucose uptake and selectively decrease glioblastoma cell growth. Catherine Libby. Department of Cell, Developmental and Integrative Biology, University of Alabama at Birmingham, Birmingham, AL.

A60 Elevated endogenous SDHA drives pathologic metabolism in highly metastatic uveal melanoma. Chandrani Chattopadhyay. University of Texas MD Anderson Cancer Center, Houston, TX.

A61 Inhibition of glutamine metabolism increases radiation sensitivity in an in vitro model of NSCLC. Christien Kluwe. Vanderbilt University Medical Center, Nashville, TN.

A62 Nicotinamide phosphoribosyltransferase (NAMPT) as a target in Ewing sarcoma. Christine Heske. National Cancer Institute, Bethesda, MD.

A63 Targeting glycolytic activity with dichloracetaete sensitizes HNSCC to the anticancer activity of propranolol. Christopher Lucido. University of South Dakota Sanford School of Medicine, Sioux Falls, SD.

A64 Therapeutic effects and metabolic rewiring upon glutaminase loss in T-ALL. Daniel Herranz. Rutgers Cancer Institute of New Jersey, New Brunswick, NJ.

A65 Density-dependent cholesterol metabolism mediated by liver X receptors B (LXRB) in glioblastoma multiforme. Deven Patel. National Cancer Institute, NIH, Bethesda, MD.

A66 Having opposite effects on insulin receptors in cancer- and non-cancer cells, β-pentagalloylglucose sabotages pancreatic cancer cells and cures cancer cachexia in mice carrying the cancer cells. Feng Wang. The Institute of Integrative Medicine for Acute Abdominal Diseases, Nankai Hospital, Tianjin, China.

A67 NAD biosynthesis as a collateral lethality target in cancer. Florian Muller. University of Texas MD Anderson Cancer Center, Houston, Houston, TX.

A68 Combined targeting mTOR and other metabolic enzymes effectively inhibit tumor growth in human glioma cells. Gábor Petóvári. 1st Department of Pathology and Experimental Cancer Research, Semmelweis University, Budapest, Hungary.


A73  Combined treatment of TRAIL and cystine deprivation overcomes resistance to hypoxia in MDA-MB-231 cells. In-Chul Park. Radiation Molecular Diagnosis Research Team, Division of Radiation Biomedical Research, Seoul, Republic of Korea.

A74  Glutamine is necessary for induction of cell death by metformin and lapatinib in breast cancer cells. In-Chul Park. Division of Basic Radiation Bioscience, Korea Institute of Radiological and Medical Sciences, Seoul, Republic of Korea.

A76  Copper trafficking as a novel target for chemosensitization to platinum therapy in osteosarcoma. Jordon Inkol. University of Guelph, Guelph, ON, Canada.

A77  Enhanced lipid uptake fuels the extensive transformation of the prostate cancer lipidome in response to androgen-targeted therapies. Kaylyn Tousignant. Queensland University of Technology, Brisbane, QL, Australia.

A78  Safety and efficacy of a novel class of GLUT inhibitors. Kellen Olszewski. Kadmon Corporation, LLC, New York, NY

A79  PIM kinases regulate mitochondrial respiration in cancer cells. Kwan Long Mung. Department of Biology, University of Turku, Turku, Finland

A80  Probing mitochondrial NADH sources upon respiration inhibition. Lifeng Yang. Princeton University, Princeton, NJ.
B01  Cancer metabolic shift driven by MSC1-mediated mitochondria dysfunction in colon cancer. Minhee Kim. Department of Pharmacology, Metabolic Syndrome and Cell Signaling Laboratory, Institute for Cancer Research, College of Medicine, Chungnam National University, Daejeon, South Korea.


B03  Metformin prevents ovarian cancer progression via repressing ROS-dependent HIF1α stabilization in mesothelial cells. Peter Hart. University of Chicago, Chicago, IL.

B04  Normalizing metabolic heterogeneity to inhibit cancer cell invasion. Rachel Commander. Emory University, Atlanta, GA.

B05  NetrinG1/NGL-1 Axis promotes pancreatic tumorigenesis through cancer associated fibroblast derived nutritional supply and immunosuppression. Ralph Francescone. Fox Chase Cancer Center, Philadelphia, PA.

B06  The battle for L-arginine: Hepatocellular carcinoma cells vs. immune cells. Rindert Missiaen. Abramson Family Cancer Research Institute, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA.

B07  STAT3 activation in endothelial cells is important for tumor metastasis via increased cell adhesion molecule expression. Sang-Kyu Ye. College of Medicine, Seoul National University, Seoul, Republic of Korea.

B08  A regulatory multienzyme complex for glucose metabolism and its contributions to the Warburg effect in single cancer cells. Songon An. University of Maryland, Baltimore County (UMBC), Baltimore, MD.

B09  The role of SREBP1 in cancer development and progression. Vinayak Bhandari. OICR, University of Toronto, Toronto, ON, Canada.

B11  NFS1 undergoes positive selection in lung tumors and protects cells from ferroptosis. Vladislav Sviderskiy. New York University School of Medicine, New York, NY.
Old drugs new tricks again? Alzheimer’s drug memantine as a potential anticancer agent.
Gulsah Albayrak. Ufuk University, Ankara, Turkey.

mTORC1 and STAT3 cooperate to regulate mitochondrial dynamics and metabolism in tuberous sclerosis complex (TSC). Hilaire Lam. Brigham and Women’s Hospital, Harvard Medical School, Boston, MA.

Functional capacity of CHCHD2 in glioblastoma cells expressing EGFRvIII. Jan Lumibao. University of Illinois Urbana-Champaign, Urbana, IL.


Novel role for both ACC isoforms in breast cancer progression. Keely Tan. University of Sydney, Camperdown, NSW, Australia.

IL-32 is a novel metabolic regulator and growth factor for multiple myeloma cells. Kristin Roseth Aass. Norwegian University of Science and Technology, Trondheim, Norway; Centre of Molecular Inflammation Research (CEMIR), Faculty of Medicine and Health Sciences, Norwegian University of Science and Technology, Trondheim, Norway.


ACC1 is a novel regulator of breast cancer progression and metastasis. Matthew Naylor. University of Sydney, Sydney, NSW, Australia.


Metabolomic analysis of circulating cancer cells. Thomas Mathews. University of Texas Southwestern, Dallas, TX.


A role of NR1H4 on cell growth and proliferation in colon cancer cells. Yun Jeong Lee. National Cancer Center, Goyang, Gyeonggi, Korea.


IGF2 mediates the cellular metabolic shift towards enhanced glucose and fatty acid oxidation in triple-negative breast cancer (TNBC) cells. Daisy De León. Loma Linda University, Loma Linda, CA.
IGF2 is a key player in determining the metabolic phenotype of cancer by regulating mtDNA content and genes critical in the metabolic switch of breast cancer cells. Vinodh Radhakrishnan. Loma Linda University, Loma Linda, CA.

Dexras1 negatively controls metabolism of brown fat via regulation of mitochondrial dynamics. Jo Woon Seok. Yonsei University, Seoul, South Korea.

When cancer meets fat: Role of the p53 pathway in lipid metabolism. Laurent Le Cam. Montpellier Cancer Center, Montpellier University, INSERM, Montpellier, France.

Metabolomic markers of hepatocellular carcinoma. Nicholas Skill. Indiana University, Indianapolis, IN.

The multifunctional protein E4F1 links p53 to lipid metabolism. Matthieu Lacroix. INSERM U1194 - IRCM, Montpellier, France.

Comparing metabolic labeling of human tumors at different anatomic sites. Divya Bezwada. UT Southwestern Medical Center, Dallas, TX.

From time-lapse imaging to computational modeling: How glucose dynamics influence tumor cell growth. Jianchen Yang. The University of Texas at Austin, Austin, TX.

Proliferating cell nuclear antigen (PCNA) has a central role in regulation of the glycolysis in hematologic cancer cells. Lisa M. Røst. Department of Biotechnology and Food Science, Faculty of Natural Sciences, NTNU Norwegian University of Science and Technology, Trondheim, Norway.

Evaluation of the relationship between argonaute proteins expression and epithelial to mesenchymal transition-related proteins in mammary cell lines. Georgina Rivas-Saucedo. Universidad Autonoma de Zacatecas, Unidad Academica de Ciencias Quimicas, Zacatecas, Zacatecas, Mexico.


The role of CD36 in tumor redox homeostasis. Alexander Terry. University of Illinois, Chicago, IL.

IDH1 supports redox homeostasis and growth in pancreatic cancer. Ali Vaziri-Gohar. Department of Surgery, Division of Surgical Research, Jefferson Pancreas, Biliary and Related Cancer Center, Thomas Jefferson University, Philadelphia, PA.


Understanding natural tolerance to cancer-causing mutations: Imaging homeostatic equilibrium of oncogenic mutant clones in phenotypically normal tissue of live mice. Anupama Hemalatha. Genetics Department, Yale School of Medicine, New Haven, CT.

Acetylation activates an alternative function of SOD2 promoting breast cancer stemness. Chenxia He. Medical College of Wisconsin, Milwaukee, WI, US.
Lysine oxidase exposes a targetable liability in triple-negative breast cancer cells by inducing the antioxidant enzyme thioredoxin reductase 1. Dmitry Malin. University of Wisconsin, Madison, WI.

Deubiquitinases maintain protein homeostasis and survival of cancer cells upon glutathione depletion. Isaac Harris. Ludwig Cancer Center, Harvard Medical School, Boston, MA.


Monounsaturated fatty acids suppress non-apoptotic cancer cell death. Leslie Magtanong. Stanford University, Stanford, CA.


Investigating the contribution of NNT to Fe-S cluster biosynthesis in NSCLC. Nathan Ward. Moffitt Cancer Center, Tampa, FL.

Increased levels of Nrf2 expression lead to enhanced initiation and progression of lung carcinogenesis in Kras mutant mouse model. Ritu Sharma. University of Dundee, Dundee, United Kingdom.

A large-scale chemical modulator screen identifies mTOR signaling as a positive regulator of ferroptosis. Scott Dixon. Stanford University, Stanford, CA.

Multistage differentiation defines melanoma subtypes with differential vulnerability to drug-induced iron-dependent oxidative stress. Thomas Graeber. UCLA, Los Angeles, CA.

p53-mediated adaptation to serine starvation is retained by tumor-derived mutants. Timothy Humpton. CRUK Beatson Institute, Glasgow, United Kingdom.


Targeting the adaptive response in Adiponectin Receptor signaling following androgen-targeted therapy in prostate cancer: Efficacy in castrate LNCaP tumor xenografts in vivo. Lisa Philp. Australian Prostate Cancer Research Centre-Queensland, Institute of Health and Biomedical Innovation, School of Biomedical Sciences, Faculty of Health, Queensland University of Technology (QUT), Princess Alexandra Hospital, Translational Research Institute, Brisbane, QLD, Australia.

Targeting Leptin Receptor signaling slows the progression of advanced prostate cancer. Lisa Philp. Australian Prostate Cancer Research Centre-Queensland, Institute of Health and Biomedical Innovation, School of Biomedical Sciences, Faculty of Health, Queensland University of Technology (QUT), Princess Alexandra Hospital, Translational Research Institute, Brisbane, QLD, Australia.

Metabolic functions of the MDM2 oncoprotein define potential novel treatments for liposarcoma. Madi Cissé. Institut de Recherche en Cancérologie de Montpellier, Montpellier, France.
**B57** Metabolic profiling and targeting of pancreatic ductal adenocarcinoma. Marija Trajkovic-Arsic. Division of Solid Tumor Translational Oncology, West German Cancer Center, University Hospital Essen and German Cancer Consortium (DKTK, partner site Essen) and German Cancer Research Center (DKFZ), Essen, NRW, Germany.

**B58** Tumor cell intrinsic roles for ornithine decarboxylase in the development and maintenance of Myc-driven lymphoma. Mario Fernandez. H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.


**B60** Inhibition of Aurora kinase A inhibits the Warburg effect and elicits unique metabolic vulnerabilities in preclinical model systems of glioblastoma. Markus Siegelin. Columbia University, New York, NY.


**B62** Multiomic analysis reveals a metabolic “oncogenic memory” in dormant, residual cancer cells following successful tumor treatment. Martin Jechlinger. EMBL (European Molecular Biology Laboratory), Heidelberg, Germany.

**B63** Cystine-glutamate antiporter xCT deficiency suppresses tumor growth without impairing antitumor immunity. Michael Arensman. Pfizer, Pearl River, NY.

**B64** Growth inhibition by glutaminase inhibitors and the relationship to glutamine-dependent growth of bladder and colon cancer cells. Michael Lea. Rutgers New Jersey Medical School, Newark, NJ.

**B65** Perturbations of cancer cell metabolism by the antidiabetic drug canagliflozin. David Papadopoli. McGill University, Montreal, QC, Canada.

**B66** Targeting MET modulates global metabolic pathways and induces dNTPs depletion-associated DNA damage in MET-addicted models. Michaela Poliakova. Inselspital, University of Bern, Radiation Oncology, Bern, Switzerland.

**B67** Identifying mechanisms of metabolic regulation and adaptation in lung squamous cell carcinoma. Milica Momcilovic. UCLA, Los Angeles, CA.

**B68** MYC-driven small cell lung cancer is metabolically distinct and vulnerable to arginine depletion. Milind Chalishazar. Department of Oncological Sciences, University of Utah, Huntsman Cancer Institute, Salt Lake City, UT.

**B69** New mechanistic studies of a clinically successful, first-in-class cancer metabolism drug. Moises Guardado Rivas. Stony Brook University, Stony Brook, NY.
Withaferin A inhibits lysosomal activity to block autophagic flux and induces apoptosis via energetic impairment in breast cancer cells. Nethaji Muniraj. Johns Hopkins University School of Medicine and Sidney Kimmel Comprehensive Cancer Center, Baltimore, MD.

Papaverine and its novel derivatives radiosensitize solid tumors by inhibiting mitochondrial function. Nic Denko. Ohio State University, Columbus, OH.

Enzyme-directed Toll-like receptor agonists that confer immunogenicity to metabolism and drug efflux in multidrug-resistant cancers. Rock Mancini. Washington State University, Pullman, WA.

Phenotypic screening identified a class of thiosemicarbazones that inhibit mitochondrial respiration while decreasing lactate production. Scott Ackler. AbbVie Inc, North Chicago, IL.

Pan-cancer identification of metabolic dysregulation: Targeting the adaptive response. Spencer Rosario. Roswell Park Comprehensive Cancer Center, Buffalo, NY.

Targeting cancer metabolism in BRCA deficient breast cancer. Tamica N. Collins. University of Chicago, Chicago, IL, USA.

Specific targeting of MTAP-deleted tumors with a combination of 2-fluoroadenine and 5′-methylthioadenosine. Warren Kruger. Fox Chase Cancer Center, Philadelphia, PA.

Activation of Nrf2 in lung adenocarcinoma leads to a dependency on exogenous nonessential amino acids. Warren Wu. NYU School of Medicine, New York, NY.

Blockage of protein neddylation alters mitochondrial morphology and reprograms energy metabolism for targeted cancer therapy. Yi Sun. Institute of Translational Medicine, Zhejiang University School of Medicine, Hongzhou, Zhejiang, P.R. China.

Identification of novel MCT4 inhibitors for treating cancers with high expression of MCT4. Yong Wu. Charles Drew University of Medicine and Science, David Geffen UCLA School of Medicine, Los Angeles, CA.