OFFICE FOR TECHNOLOGY COMMERCIALIZATION

RESEARCH TOOLS CATALOG

UNIVERSITY OF MINNESOTA

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ANTIBODIES

UMN Case #	Gene/Antigen	Clone	Species of Origin	Species Reactivity	Applications	Clonality	PubMed ID #
20100065	Keratoepithelin/transforming growth factor, beta-induced			Human & Mouse	WB, IHC: Preclinical Validation	Polyclonal	18079684; 20011632; 18068629
20100096	dynein heavy chain 64C			Drosophila	IHC, IP, WB. Most likely it will work for ELISA	Monoclonal	16107559; 14711415; 11715021; 15075237
Z09054	Proline-rich protein 5			Human	WB	Polyclonal	17599906;15718101
20100139	CD133/Prominin-1			Human	WB, IHC	Monoclonal	20674577; 20569000; 20715988; 20617370; 19699546 ; 18067118; 20344822; 19816957; 19409053; 18958156
	p-NOXA	2B3		Human		Monoclonal	21145489
94048	TNF receptor superfamily member 5/CD24			Human	IHC	Monoclonal	10411888; 9990007; 7527023; 10984535; 8790348; 10764746; 1700237; 16085550
Z08183	Nef-associated factor 1			Human	IHC, WB	Monoclonal	17632516; 17632516; 16225425
97016	Cytochrome-C			Human & Mouse	WB	Monoclonal	11790791; 1646017; 6088481; 6088481; 8689682
81010	CD11/CD18			Human		Monoclonal	6968776
92127	ß1-integrin (207-218)	P5D2		Human	IHC, IP	Monoclonal	8120056, 7683214, 7518835
92127	ß1-integrin (305-354)	P4G11		Human	IHC, IP	Monoclonal	8501119
92127	av-integrin	P8G8		Human	IHC, IP	Monoclonal	
92127	av-integrin	P3G8		Human	IHC, IP	Monoclonal	8120056, 1709170

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92127	αvß5-integrin	P3G2		Human	IHC, IP	Monoclonal	1709170, 1374415
92127	αvß5-integrin	P1F6		Human	IHC, IP	Monoclonal	
92127	E-selectin	P2H3		Human	IHC, IP	Monoclonal	11505371
92127	P-selectin	P8G6		Human	IHC, IP	Monoclonal	
92127	ICAM-1	P2A4		Human	IHC, IP	Monoclonal	
92127	VCAM	P8B1		Human	IHC, IP	Monoclonal	11505371, 7518835
92127	VCAM	P3C4		Human	IHC, IP	Monoclonal	
92127	PECAM	P2B1		Human	IHC, IP	Monoclonal	11505371
92127	Endoglin	P3D1		Human	IHC, IP	Monoclonal	9331949
92127	Endoglin	P4A4		Human	IHC, IP	Monoclonal	9331949
92127	Endothelial specific marker	P1H12		Human	IHC, IP	Monoclonal	11505371, 9371854
92127	Laminin-5	P3H9-2		Human	IHC, IP	Monoclonal	7967523, 8501119
92127	Laminin-5	P3E4		Human	IHC, IP	Monoclonal	
92127	Fibronectin	P1H11		Human, Rat, Primate	IHC, IP	Monoclonal	8501119
Z09177	Cloning of Hamster CD4 and CD8 Genes and Generation of Antibody Against Them			Hamster	IP, Flow		
98044	CD146	P1H12		Human	IHC, Flow	Monoclonal	9371854, 11709656
Z00147	Core-2 O-glycan containing sLeX	CHO-131		Human	IHC, IP, Flow	Monoclonal	16982914, 16982914, 15596301, 19267921, 12847092, 15026421

ANTIBODIES

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Z03044	Human P-selectin Glycoprotein Ligand-1 (PSGL-1), CD162	215		Human	Flow Cytometry	Monoclonal	

TRANSGENIC MICE

UMN Case #	Title	Description	Utility	PubMed ID #
Z09100	Slc11a2 Hippocampal conditional knockout mice	Targeted Slc11a2 flox/flox mice in a 129 J1 background strain (20) were crossed with CaMKIIα-cre (L7ag#13 line (21)) transgenic mice in a C57BL/6J background to generate double mutant, hippocampal neuron specific knockout of Slc11a2 (Slc11a2hipp/hipp mice) in a mixed, Filial 2 (F2) generation, 129 J1/C57BL/6J background.	Researchers would use this mouse to understand the fundamental biology behind iron deficiency's effects on the brain.	19211831; 18723004
20100059	Acute lymphoblastic leukemia cell line and mouse model	Mice expressing a constitutively active form of the transcription factor STAT5b in developing lymphocytes (called STAT5b-CA)	Used to identify genes required for transformation and survival of the leukemic cells. Likewise, both the cell line and mouse model can be used to identify new; Activation of STAT5 can be observed in a high percentage (>35%) of adult ALL patients likewise, mutations in pax5 have been found in >30% of human ALL patients. Thus, we have a model that mimics one of the most common forms of leukemia drugs that might be efficacious against this form of leukemia.	21606506
20110048	Nur77/GFPCre transgenic mouse	BAC transgenic mouse that expresses GFP when stimulated through the T or B cell antigen receptor	This mouse has many applications for basic research on the immune system, infectious disease, autoimmune disease, transplantation, vaccination, and immunotherapy for cancer. It will also be useful in screening compounds designed to activate or inhibit T cell receptor or B cell receptor activation in vitro or in vivo.; There is a potential utility to use this mouse for in vitro (cell based) or in vivo (animal model based) screens for compounds that activate or inhibit lymphocytes, including but not limited to: T cells, B cells, iNKT cells, gd T cells, and Tregulatory cells.	21606508
Z02078	iMycCα/Bcl-XL double transgenic mouse	Myc transgenic mice created by inserting a single-copy histidine-tagged mouse Myc gene, MycHis, into the mouse Ig heavy-chain Cα locus. Bcl-XL transgenic mice were also created that contain a multicopy Flag-tagged mouse Bcl-xFlag transgene driven by the mouse Ig k light-chain 3' enhancer. The two strains were then crossed to form double transgenics.	A mouse model of human plasma cell cytoplasms (PCN) that may be useful to elucidate the mechanism of the Myc/Bcl-XL collaboration and to design new approaches for treatment and prevention of human PCN.	15199411, 17483317

TRANSGENIC MICE

UMN Case #	Title	Description	Utility	PubMed ID #
Z08158	De novo Induction of Central Nervous System Tumors via Somatic Cell Gene Transfer	The use of Sleeping Beauty transposable elements to achieve chromosomal integration of human oncogenes into endogenous brain cells of immunocompetent mice. Genetically engineered, spontaneous brain tumors were induced with plasmid DNA in a matter of weeks in many mouse strains. Tumors that arose recapitulated human glioma including presence of cancer stem cells. At least five different genes can be transfected simultaneously, allowing measurement of tumor viability by in vivo imaging.	This model can accelerate brain tumor research in a variety of ways, such as generation of "humanized" models for high throughput drug screening, and candidate gene validation with exceptional speed and flexibility.	19147555
Z04200	A Transposon-based System for Cancer Gene Identification in Mice	The Sleeping Beauty (SB) Transposon System is a "cut and paste" system for efficient delivery of DNA to a wide range of vertebrate cells. These mice demonstrate the utility of SB for a new application: cancer gene discovery. Using SB to "tag" and clone cancer genes, this system distinguishes "driver" mutations from "passenger" mutations for guiding the design of targeted therapeutics.	SB is effective for somatic and germline mutagenesis - identifying both tumor suppressor and oncogenes. This method is validated for cancer gene discovery in Liver, GI tract, Brain (gliomas and Medulloblastomas), Fibrosarcomas, Leukemia and Histioscarcoma.	16150649, 16015313, 16015333, 15831708

CELL LINES

UMN Case #	Title	Species of Origin	Description	PubMed ID #
20100059	Acute lymphoblastic leukemia cell line and mouse model		We have recently succeded in generating a cell line derived from these leukemias. The STAT5b-CA x pax5+/- leukemic cell line grows in the presence of interleukin-7. Withdrawal of IL7 results in cell death. We have also treated the STAT5b-CA x pax5+/- cell line with the histone deacetylase inhibitor apicidin.	21606506
20120137	Immortal LF-c1 604 Avian Clonal Variant Cell Line for Improved Vaccine Virus Propagation		Sub-clone of the well defined DF-1 cells. This clone which is able to produce higher Marek's Disease Virus titers compared to the parental cell line.	
Z04191	A Rapidly Growing Immortal Chicken Embryo Fibroblast Cell Line (WK-1)		WK-1 is an immortalized chicken embryo fibroblast cell line. It demonstrates very rapid growth and is non-tumorigenic.	
95149	A Retrovirus Free Cell Line for Vaccine Development		Retrovirus contamination in a vaccine is a serious concern because it can render the vaccine ineffective, or include genetic materials from another virus, leading to adverse side effects. FDA regulations require continual monitoring in the production of vaccines. The detection of retroviruses can lead to costly production delays, denial of FDA approval and adverse events that impact public trust.	Well recognized and established as a research tool, published in over 200 publications
20110168	Canine melanoma cell lines and tissue samples		Collection of three canine melanoma cell lines for research purposes.	9539362
20110168	Canine hemangiosarcoma cell lines and tissue samples		Collection of over 17 canine hemangioma cell lines for research purposes.	
20110168	Canine osteosarcoma cell lines and tissue samples		Collection of over 15 canine osteosarcoma cell lines for research purposes.	21621658

CELL LINES

UMN Case #	Title	Species of Origin	Description	PubMed ID #
20130241	Androgen Independent Prostate Cancer Cells		Human prostate cancer cell lines with induced targeted deletion or inversion of exons 5-7 in the androgen receptor (AR) gene locus. The key features of this IP are: 1. R1-AD1: An androgen-sensitive cell line, which has a normal AR gene copy on the X-chromosome. 2. R1-D567: A cell line created from R1-AD1. Harbors a deletion of AR exons 5-7. 3. R1-I567A: A cell line created from R1-AD1. Harbors an inversion of AR exons 5-7.	24101480
20140156	Novel tumor cell lines representing localized and metastatic stages of pancreatic cancer		These cell line are spontaneous tumor cell lines. They represent different stages of pancreatic cancer disease progression (i) organ-confined/indolent stage, (ii) organ-confined/invasive stage and (iii) metastatic pancreatic tumor cell (retrieved from liver). These cell lines grow in culture plates, are adherent to cultures plates.	Manuscript submitted
20150278	RUNX1c-tdTom reporter cell line to better identify hematopoietic stem/progenitor cells from human pluripotent stem cells		A novel genetic reporter system to prospectively identify and isolate early hematopoietic cells derived from human embryonic stem cells (hESCs) and human induced pluripotent cells (iPSCs). Cloning the human RUNX1c P1 promoter and +24 enhancer to drive expression of tdTomato (tdTom) in hESCs and iPSCs, we demonstrate that tdTom expression faithfully enriches for RUNX1c-expressing hematopoietic progenitor cells.	25546363
20150279	RUNX2-YFP reporter cell line to identify osteogeneic progenitor cells derived from human pluripotent stem cells.		RUNX2-yellow fluorescent protein (YFP) reporter system to study osteogenic development from human embryonic stem cells (hESCs).	25680477

LABORATORY REAGENTS & TECHNIQUES

UMN Case #	Title	Species	Description	PubMed ID #
20100137	Protein domain-based reprogramming of cell differentiation		A novel fusion protein between Oct4 and a short transactivation domain of MyoD (M5-O) which drastically improves the efficiency and quality of induced-pluripotent stem cells.	21732495
20120126	Shuttle Vectors for Rickettsia Species		Plasmid vectors that incorporate portions of native plasmids from Rickettsia amblyommii, a symbiont of the Lone Star tick. This shuttle vector system has been engineered to be able to replicate in both E. coli (for easy production) and in rickdettsiae. Current technology for transformation of rickettsiae relies on transposon mutagenesis that results in random insertion of genes into the rickettsial genome, and may disrupt gene function. Transposons can carry only a limited size "payload," and is inefficient (low number of mutants are recovered). In contrast, our shuttle vectors do not cause gene disruption, because they are not inserted into the rickettsial genome. This allows introduction of any gene or group of genes into rickettsiae for testing their function, or for labeling live rickettsiae that express fluorescent markers encoded on the plasmids to study their behavior in cells and organisms.	
20100153	Inducible Synthetic Transcription Activators for Bacteria		A new synthetic protein molecule and its complementary DNA promoter sequence. A molecular device that activates gene expression upon induction via a synthetic protein molecule and its complementary DNA promoter sequence. With this molecular device, scienstists and engineers can deliberately and precisely turn on and off the production of proteins in bacteria.	
Z08093	Methods for Production of Soluble and Functional DNA Cytosine Deaminase Proteins		The DNA deaminase proteins are notoriously insoluble. Our technology provides critical information that enabled us to circumvent this problem to produce soluble protein and characterize it biophysically and structually.	18288108
96135	DNA-based Transposon System for the Introduction of Nucleic Acid into the DNA of a Cell		This technology encompasses the Sleeping Beauty (SB) transposon system, which includes the SB transposon and its associated transposase. The SB system enables transfer and long-term expression of genes into chromosomes for such uses as gene therapy, cell therapy, protein production, gene trapping, and germ cell transgenesis.	12842434, 15133768

LABORATORY REAGENTS & TECHNIQUES

UMN Case #	Title	Species	Description	PubMed ID #
Z00105	Tick Cell Line Proteins and Genes: New Targets for Acaricides and Vaccines for the Control of Ticks and Tick Borne Pathogens			
20110056	Two Dimensional Separations Using Micro Free Flow Electrophoresis		microFFE is used to provide additional peak capacity and separation power to existing liquid based separations (e.g. capillary electrophoresis (CE) and liquid chromatography (LC)). CE or LC capillaries can be coupled directly to the microFFE device. Mixtures are separated based on one mechanism in the first dimension (CE or LC) and then flow directly into the microFFE for further separation based on a second mechanism. Under ideal cases the peak capacity of the combined 2D separation is the product of the peak capacities of the individual separations.	
Z02025	Novel High Throughput Screening Technique Using Fluorescence Activated Cell Sorting and Recycling in Bioreactors		The invention includes a bioreactor system that has one or more bioreactors. The entire system operates in a continuous mode, so that inaccuracies in separation are not as detrimental to the overall performance of the system in isolating and growing the rare cells of interest as they are in a successive batch mode system. The result is a rapid enrichment of the desired cell type within the bioreactor.	
Z07102	Reverse Plug Cytometer		The Reverse Plug Cytometer combines the positive features of both traditional flow cytometers and laser scanning and imaging cytometers. Specifically, the device enables single cell tracking of large numbers of cells.	
20120272	Molecular probe for the direct time-gated detection and differentiation of ATP, ADP and AMP and GTP, GDP and GMP		It is a small lanthanide-based probe that binds selectively and reversibly to ATP and ADP with different affinity. This weak interaction influences the luminescence of the probe.	22994413
Z09208	Opioid and Analgesic Chemical Compound Library		Available is a library of 1600 analgesics consisting of several classes of molecules and their synthetic intermediates. The compounds fall into the following broad categories: opioid agonists, antagonists, or affinity labels. The results, entered into a ChemBioFinder database, are easy to access and analyze. Note- The ChemBioFinder results will only be shared after a fee is paid.	

BIOMARKERS

UMN Case #	Title	Species	Description	PubMed ID #
Z09201	Protein Biomarkers for Kidney Disease		A ratio of protein biomarkers can be used in a diagnostic assay to detect kidney disease as early as ten years prior to the current albumin test. The protein biomarkers for kidney disease look at two protein ratios: the Albumin to Uromodulin Ratio (AUR), or the Transferrin to Uromodulin Ratio (TUR). Healthy patients excrete albumin in their urine, and the level expressed relative to uromodulin is extremely constant among healthy individuals. Albumin and transferrin proteins are the first proteins to increase with early stage kidney disease, while uromodulin declines. The ratio of these sets of proteins changes in patients that will develop chronic kidney disease, and this change can be detected 10 years prior to disease development.	
20110132	APOBEC3B Overexpression in Breast Cancer		Evidence that an endogenous DNA mutating protein, APOBEC3, is massively overexpressed in a high proportion of breast cancers and that this overexpression may be responsible for the genetic variability seen in these cancers.	
Z06083	Systemic Lupus Erythematosus (SLE) genetic diagnostic		Novel single-nucleotide polymorphisms (SNP's) for assessing the predisposition of a patient to develop SLE.	17412832
20100102	A DNA-based method for predicting responsiveness of prostate cancer cells to androgen depletion therapy		Diagnostic for classifying various prostate cancers, and predicting their responsiveness to current therapeutics, or ability to develop resistance to treatment.	21248069
Z02081	Reelin		Reelin Protein Diagnostic Test for Mental Disorders	

AGRICULTURE/HORTICULTURE

UMN Case #	Title	Species	Description	PubMed ID #
20100066	Individualized Chromosomes of Corn Inbreds B73 and Mo17 in Oat	/	A set of seed lines that are hybrids between oat and corn, and each line has one corn chromosome in it.	
97019	Monoclonal Antibodies for Detection and Quantification of Verticillium Spp. in Potato and Other Species	/ other	Monoclonal antibody against Verticillium species	
97083	Corn cDNA Mapping from Oat-corn Chromosome Addition Lines and Corn-oat Introgression Lines (C.O.I.L.S.)	/	Corn cDNA Mapping from Oat-corn Chromosome Addition Lines and Corn-oat Introgression Lines (C.O.I.L.S.)	

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