Resources for the 3Rs

Replacement
Refinement
Reduction

OLAW Online Seminar

September 24, 2015

National Institutes of Health
Office of Laboratory Animal Welfare

Resources for the 3Rs

Replacement Refinement Reduction

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OLAW Online Webinar

September 24, 2015

National Institutes of Health
Office of Laboratory Animal Welfare

3Rs

"In 1959, W.M.S. Russell and R.L. Burch published a practical strategy of replacement, refinement, and reduction—referred to as the 3Rs—for researchers to apply when considering experimental design in laboratory animal research.

Over the years, the 3 Rs have become an internationally accepted approach for researchers to apply when deciding to use animals in research and in designing humane animal research studies."

Guide page 4

Replacement

"Replacement refers to methods that avoid using animals.

The term includes absolute replacements (i.e., replacing animals with inanimate systems such as computer programs) as well as

relative replacements (i.e., replacing animals such as vertebrates with animals that are lower on the phylogenetic scale)."

Guide page 5

Refinement

"Refinement refers to modifications of husbandry or experimental procedures to enhance animal well-being and minimize or eliminate pain and distress.

While institutions and investigators should take all reasonable measures to eliminate pain and distress through refinement, IACUCs should understand that with some types of studies there may be either unforeseen or intended experimental outcomes that produce pain.

These outcomes may or may not be eliminated based on the goals of the study."

Guide page 5

Reduction

Reduction involves strategies for obtaining comparable levels of information from the use of fewer animals or for maximizing the information obtained from a given number of animals (without increasing pain or distress) so that in the long run fewer animals are needed to acquire the same scientific information.

Guide page 5

IACUC Review and the 3Rs

- PHS Policy IV.C.1.

http://grants.nih.gov/grants/olaw/references/phspol.htm

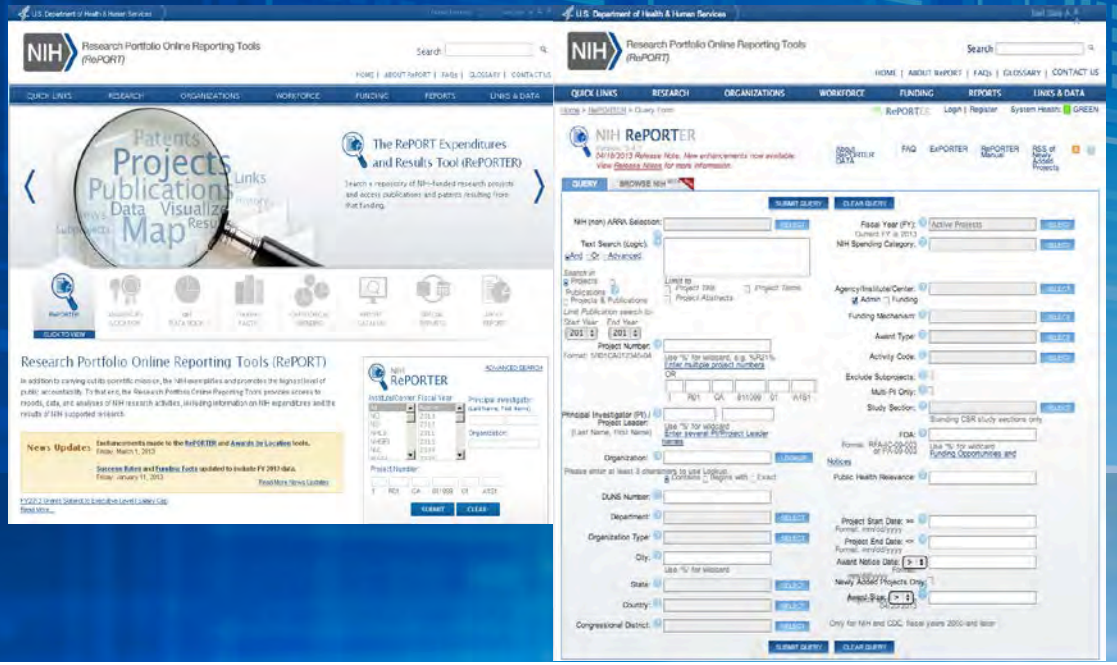
- US Government Principle III
- US Government Principle IV

http://grants.nih.gov/grants/olaw/references/phspol.htm#USGovPrinciples

National Institutes of Health

Office of Extramural Research

OER Office of Data Analysis Tools and Systems



NIH Research Portfolio Online Reporting Tools

http://report.nih.gov

http://projectreporter.nih.gov

Brian Haugen, Ph.D.

NIH Office of Extramural Research

Goals of RePORT Program

- RePORT is the NIH's commitment to the highest level of public accountability in carrying out its scientific missions.
- The Research Portfolio Online Reporting Tools website provides access to reports, data, and analyses of NIH research activities, including expenditures and the results of supported research.
- Our goals are to
  - Gather all NIH data and reports
  - Make these data easily accessible to the public
  - Highlight the links between NIH funding and research results and products

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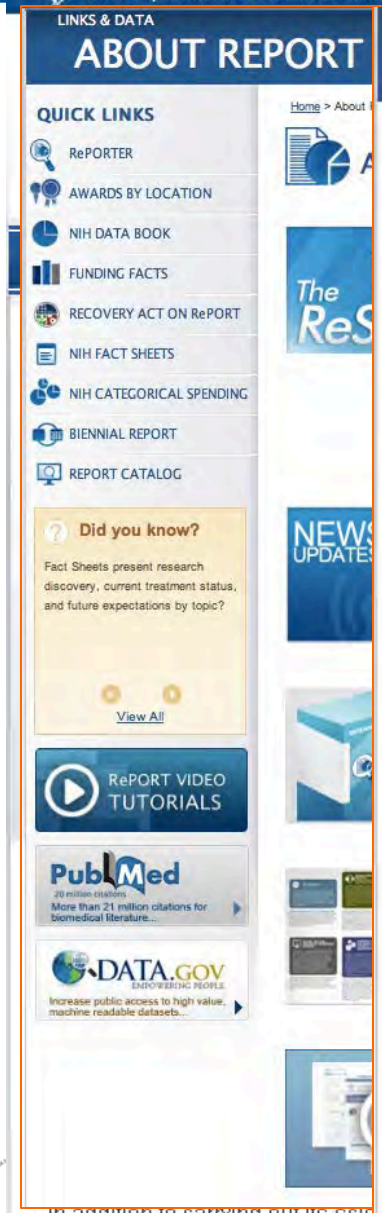
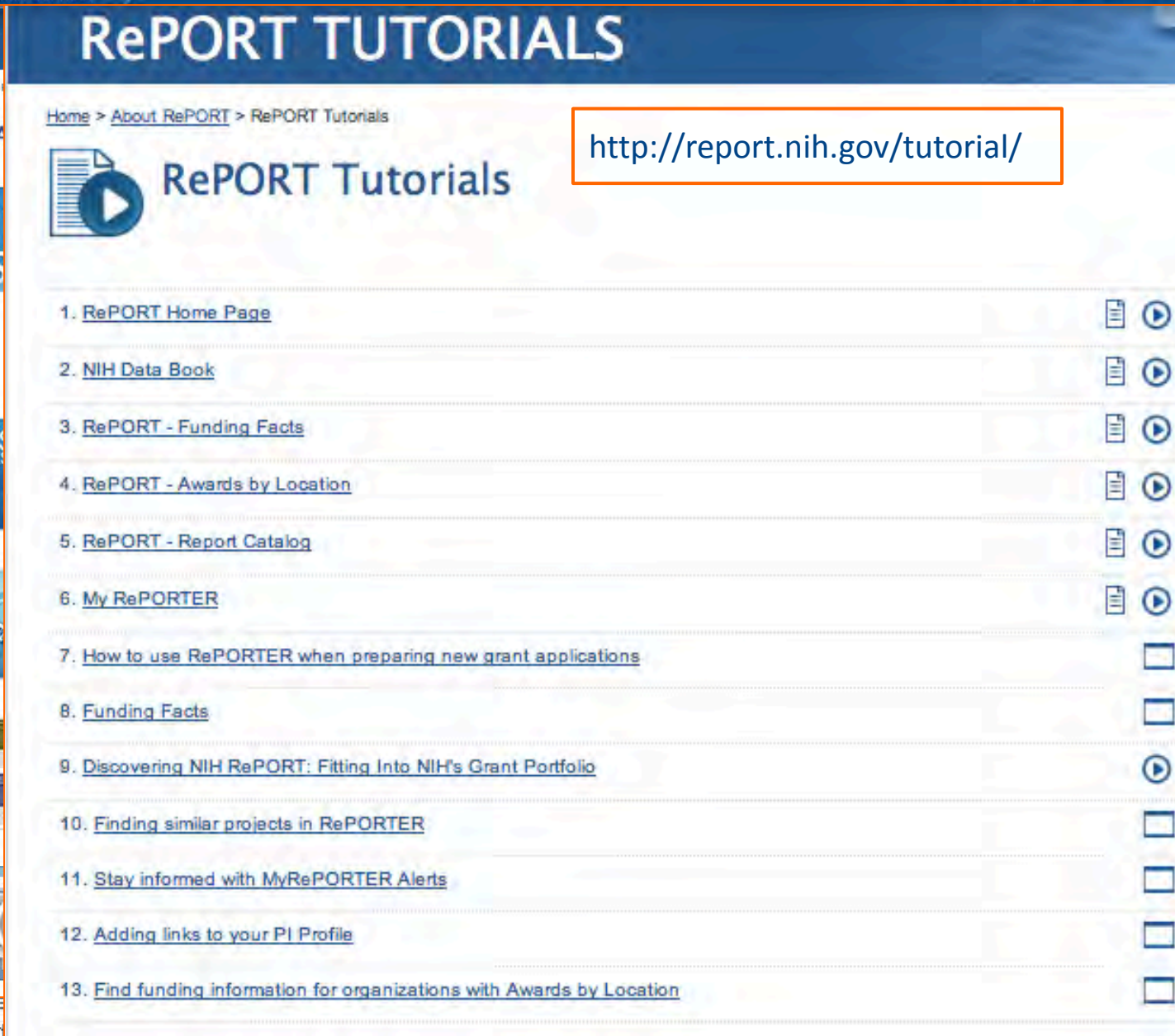
http://RePORT.nih.gov

RePORT Tutorials

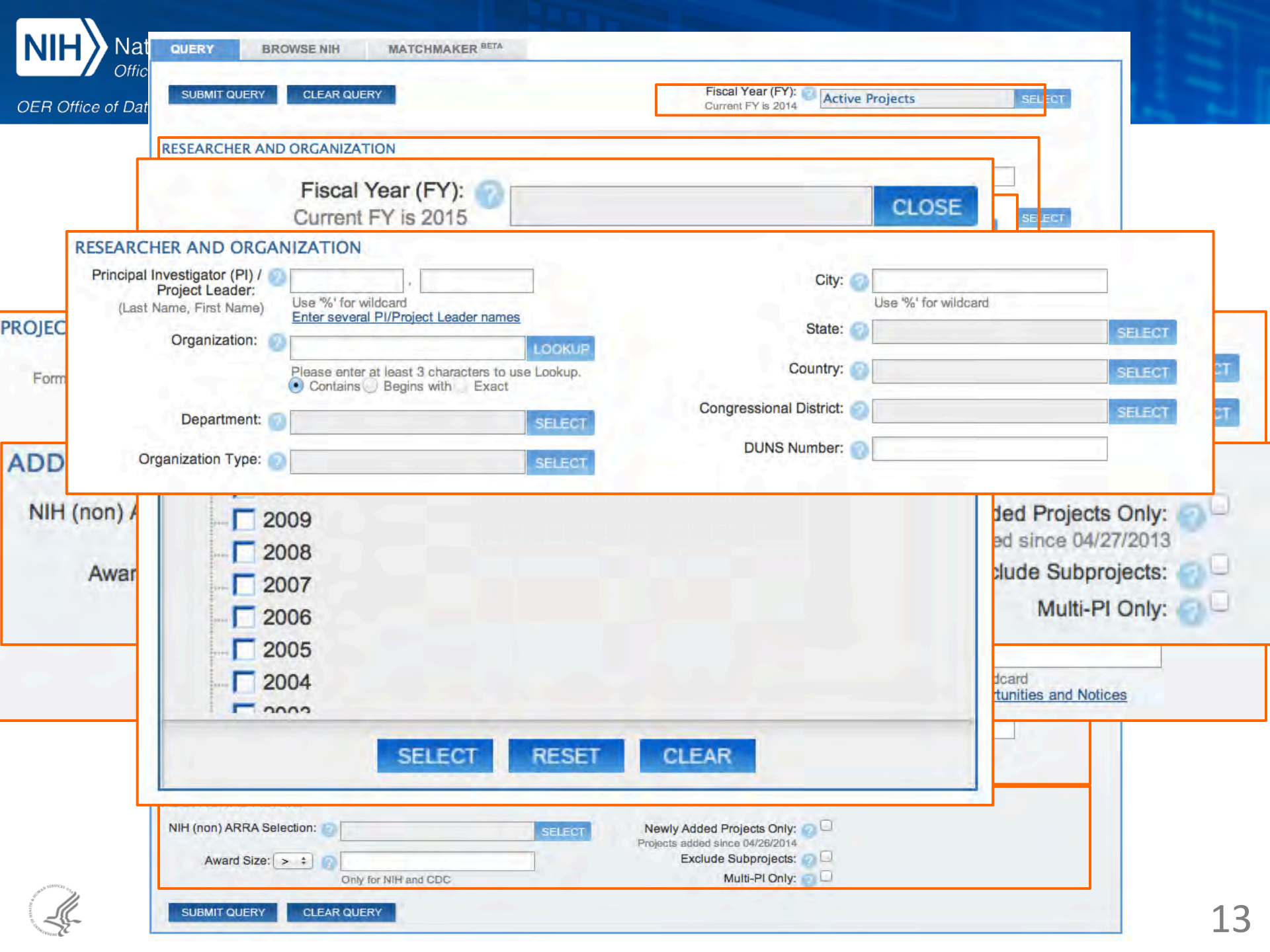




Information in RePORTER

- RePORTER, = Expenditures and Results

- Information is included from
  - NIH, intramural and extramural for the past 25 years
    - Patents, publications, and other research outcomes
  - Projects supported by other components of HHS
    - ACF, AHRQ, CDC, FDA
  - Projects supported by the VA


NIH
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QUERY
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SUBMIT QUERY
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Fiscal Year (FY):
Current FY is 2014
Active Projects
SELECT
RESEARCHER AND ORGANIZATION
Fiscal Year (FY):
Current FY is 2015
CLOSE
RESEARCHER AND ORGANIZATION
Principal Investigator (PI) / Project Leader:
(Last Name, First Name)
Use '%' for wildcard
Enter several PI/Project Leader names
Organization:
LOOKUP
Please enter at least 3 characters to use Lookup.
Contains
Begins with
Exact
Department:
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Organization Type:
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NIH (non) ARRA Selection:
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Only for NIH and CDC
Newly Added Projects Only:
Projects added since 04/26/2014
Exclude Subprojects:
Multi-PI Only:
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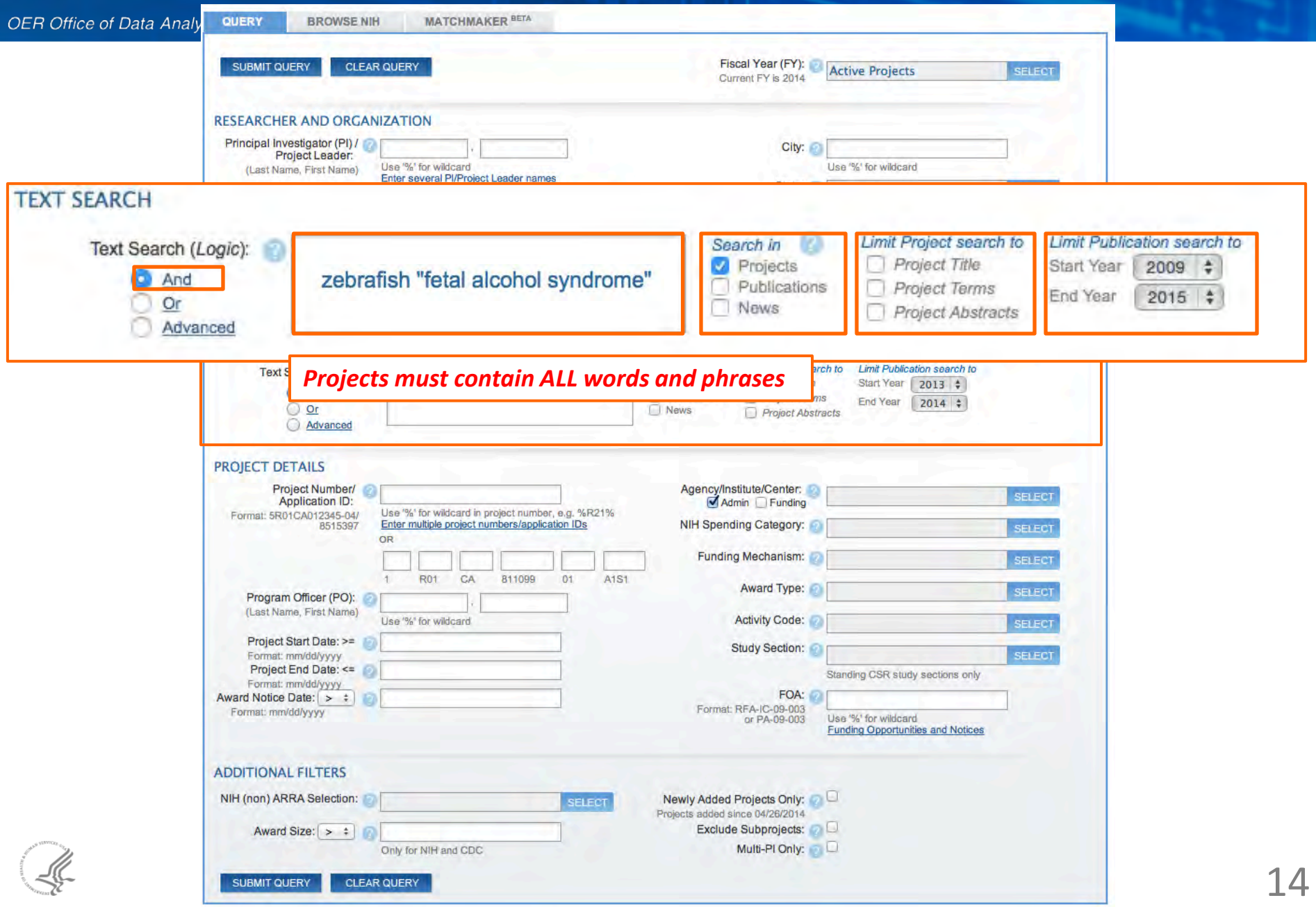
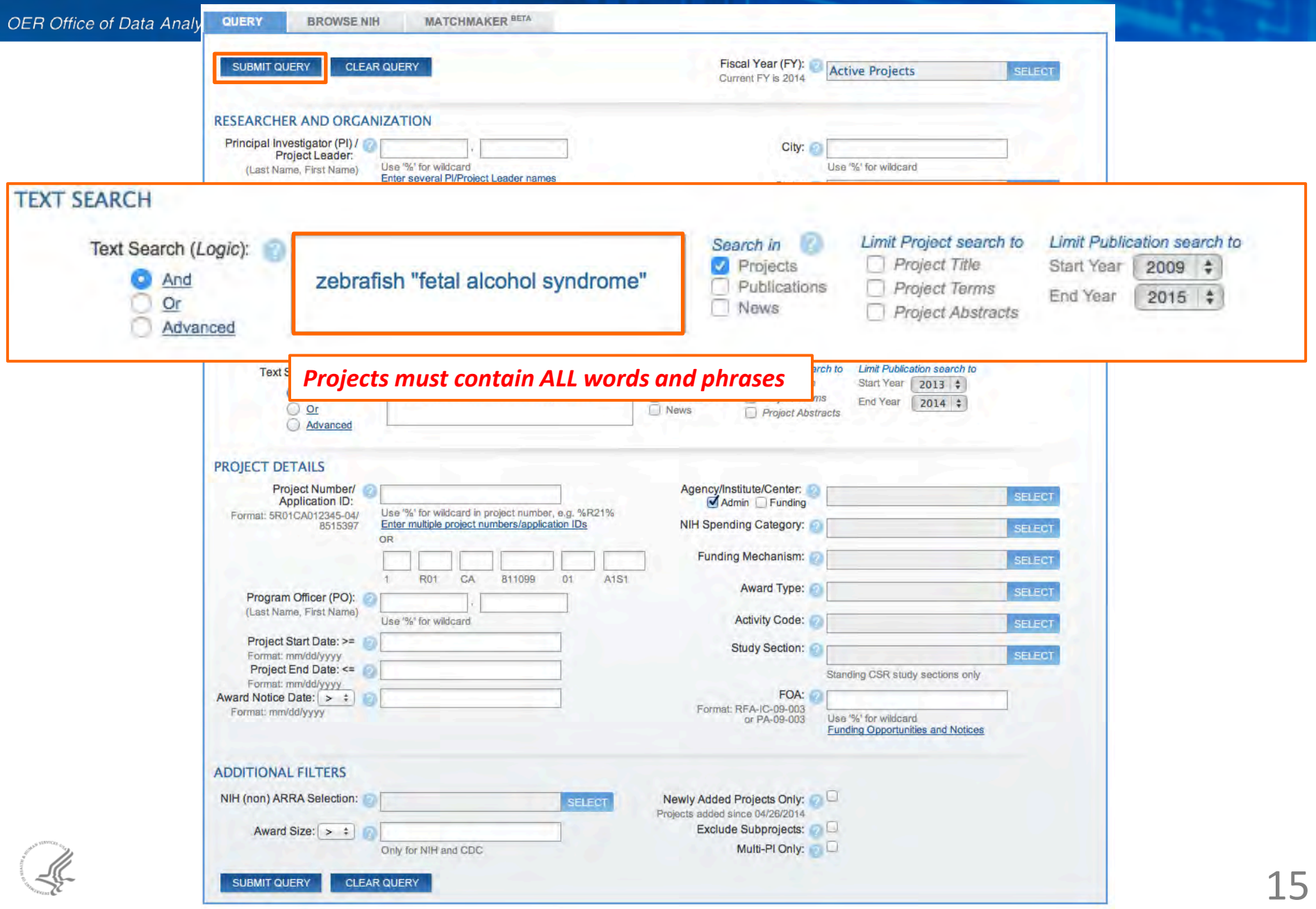
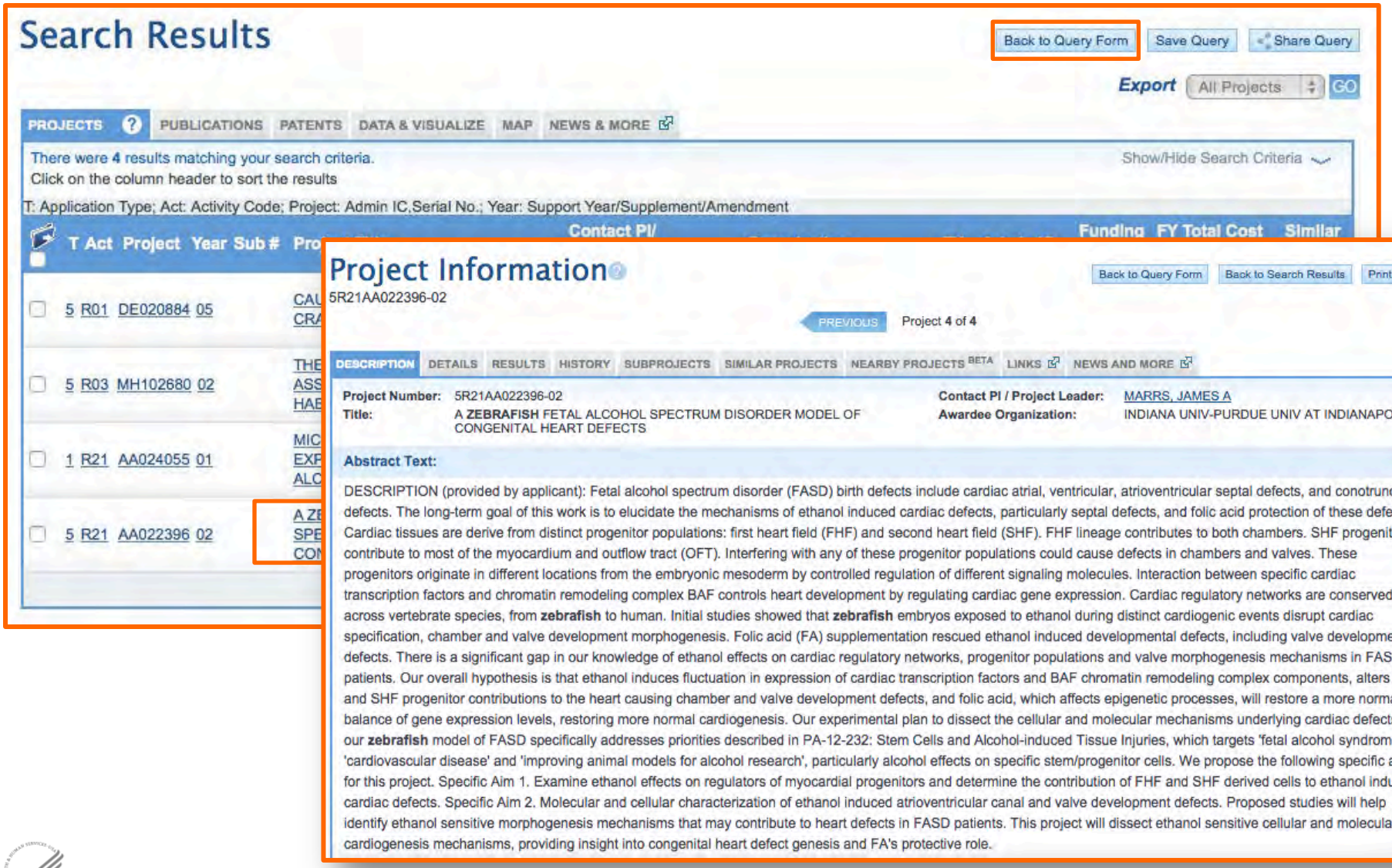
RePORTER--Text Search



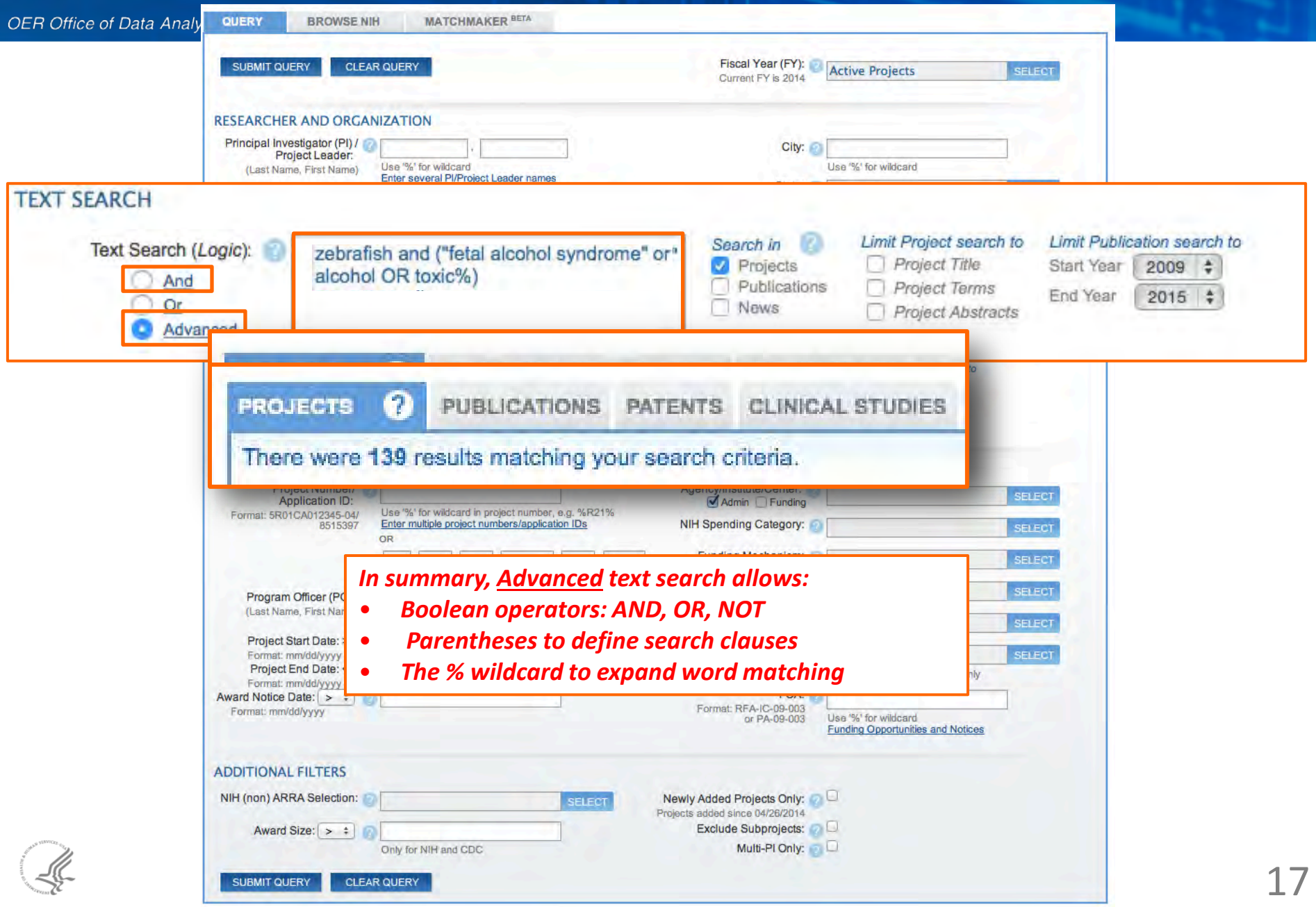
RePORTER--Text Search



RePORTER—Search Search



RePORTER—Advanced Text Search



In summary, <u>Advanced</u> text search allows:

- ***Boolean operators: AND, OR, NOT***
- ***Parentheses to define search clauses***
- ***The % wildcard to expand word matching***

Search Results

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There were **139** results matching your search criteria.

Records per page: 25

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1 2 3 4 5 6

Page 1 of 6 Next Last

T: Application Type; Act: Activity Code; Project: Admin IC,Serial No.; Year: Support Year/Supplement/Amendment

T	Act	Project	Year	Sub #	Project Title	Contact PI/ Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
		273201100001C-3-0-2			HIGH THROUGHPUT SCREENING	ALGAIER, CLARK	MIDWEST RESEARCH INSTITUTE	2013	NIEHS	NIEHS	$521,169	
1	R01	ES024915	01		ROLE OF D TOXICANT IN DNA ME							
5	P01	ES021921	04	5582	DISTRIBUT HUMAN HE MARINE P							
5	R13	HD075578	03		STRATEGI ZEBRAFIS							
5	R21	CA187516	02		A NOVEL F PIPELINE IDENTIFIC							
5	R21	GM110184	02		ANALYSIS VARIANTS DISEASES							
5	P20	GM103638	04	7862	FUNCTION SARCOMA EWS IN ZEBRAFISH		KANSAS LAWRENCE					
5	K01	OD010462	03		ADULT AND TRANSGENERATIONAL TOXICITY DUE TO DEVELOPMENTAL TCDD EXPOSURE	BAKER, TRACIE R.	UNIVERSITY OF WISCONSIN-MADISON	2015	OD	OD	$131,466	
1	ZIG	AA000600	06		OFFICE OF LABORATORY ANIMAL SCIENCE	BARNES, ANDREA	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM	2014	NIAAA	NIAAA	$3,807,039	

PREVIOUS | Project 5 of 139 | NEXT

DESCRIPTION | DETAILS | RESULTS | HISTORY | SUBPROJECTS | SIMILAR PROJECTS | NEARBY PROJECTS BETA | LINKS | NEWS AND MORE

Project Number: 5R21CA187516-02
Title: A NOVEL FUNCTIONAL GENOMIC PIPELINE FOR TARGET IDENTIFICATION IN SARCOMA

Contact PI / Project Leader: AMATRUDA, JAMES F
Awardee Organization: UT SOUTHWESTERN MEDICAL CENTER

Abstract Text:

DESCRIPTION (provided by applicant): The long-term goal of this work is to improve outcomes in Ewing Sarcoma, the most lethal bone tumor of children. Ewing Sarcoma Family Tumors (ESFT) are the second most common bone and soft tissue cancer afflicting children, adolescents, and young adults. ESFT are characterized by a chromosomal translocation resulting in a fusion between EWS and a member of the ETS family of transcription factors, most commonly FLI1. ESFT are treated with intensive chemotherapy, radiation, and surgery, yet more than half of patients die of disease within five years of diagnosis, while survivors often suffer long-term deleterious effects of treatment. An immediate need exists for the development of effective and targeted therapies with decreased toxicity. Unfortunately, we still have a limited understanding of the molecular mechanisms of ESFT tumorigenesis, which has greatly impeded the identification of improved therapies. Our preliminary data indicate that recurrent areas of chromosomal gain and loss occur in Ewing Sarcoma, suggesting that amplification or deletion of cooperating genes in these recurring regions facilitate cell transformation by EWS-FLI1. Identification and validation of these cooperating genes is essential for the development of new therapies, because strategies to target EWS-FLI1 itself have not to date been successful. We previously developed a **zebrafish** model of ESFT that recapitulates key features of the human disease. We will now use the fish model for high-throughput functional genomic assays to validate promising candidate EWS-FLI1 effector genes emerging from our high- resolution genomic analyses of human ESFT. We will further capitalize on this assay by conducting small- molecule screens to identify lead compounds that act as inhibitors of EWS-FLI1-mediated cellular transformation. To achieve this goal we will 1) identify critical EWS-FLI1 effectors though high-resolution genomic analysis of tumors; 2) use **zebrafish** in vivo models of EWS-FLI1 activity to validate candidate ESFT effectors identified in genomic copy number analyses; and 3) identify small molecules capable of inhibiting EWS-FLI1 function in the **zebrafish** model At the completion of this study, we will have demonstrated the effectiveness of a novel genomic pipeline for discovery and functional analysis of cooperating genes in translocation positive sarcomas. This novel pipeline will take advantage of our combined expertise in copy number analysis and comparative oncology using **zebrafish** models. This new pipeline and its novel approach will lead to the rapid testing and introduction of new therapeutic agents for sarcomas, one of the most deadly types of cancer in children and adults.

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There were **3154** publications supported by **3224** Active Projects.

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1 2 3 4 ... 127 128 129

1 of 129 Next Last

Core Project Number	Title (Link to full-text in PubMed Central)	Journal (Link to PubMed abstract)	Authors	Similar Publications	Cited By
R24OD010998	The common neu... neurophilia is ass... response habitua... rerio): Implicatior... organism.	Behavioural brain research. 2015 Sep 15; 291...	Spagnoli, Sean; Xue, Lan; Kent, Michael U...		
P30CA047904 Other supporting projects	Cutting Edge: He... Expansion and C... Depletion Requir... Autonomous TLR... Endotoxin.				
P30CA047904 Other supporting projects	Oral and intraver... fluoro-2'-deoxycy... monkeys and hu...				
P30CA047904 Other supporting projects	Posttraumatic str... newly diagnosed... cancer and their...				
P30CA051008	Rechallenging 5-... Capecitabine-Ind...				
P30CA047904	Theranostic nanoemulsions for macrophage COX-2 inhibition in a murine inflammation model.	Clinical immunology (Orlando, Fla.). 2015 Sep; 160 (1) :59-70	Patel, Sravan Kumar; Beaino, Wissam; Anderson, Carolyn J; Janjic, Jelena M		
P30CA047904	Anti-PD-L1 prolongs survival and triggers T cell but not humoral anti-tumor immune responses in	Cancer immunology, immunotherapy : CII. 2015 Sep; 64 (9) :1095-108	Mony, Jyothi Thyagabhavan; Zhang, Lixin; Ma, Tianzhou; Grabosch, Shannon; Tirodkar, Tejas S;		

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Abstract | Send to:

J Immunol. 2015 Sep 15;195(6):2524-8. doi: 10.4049/jimmunol.1501231. Epub 2015 Aug 14.

Cutting Edge: Hematopoietic Stem Cell Expansion and Common Lymphoid Progenitor Depletion Require Hematopoietic-Derived, Cell-Autonomous TLR4 in a Model of Chronic Endotoxin.

Liu A[1], Wang Y[1], Ding Y[2], Baez I[3], Payne KJ[3], Borghesi L[4].

Author information

Abstract

Hematopoietic stem and progenitors cells (HSPCs) are activated through TLR4 in vitro. However, it remains unclear whether in vivo TLR4 sensing by HSPCs occurs directly or via other cell intermediates. In this study, we examined the cellular mechanisms underlying murine hematopoietic stem cell (HSC) expansion and common lymphoid progenitor (CLP) depletion in a model of chronic low-dose LPS. Using adoptive-transfer approaches, we show that HSC and CLP sensitivity to chronic LPS depends on hematopoietic-derived, cell subset-autonomous TLR4. Like murine progenitors, human HSPCs are activated by TLR4 in vitro. Using humanized mice, a preclinical model relevant to human physiology, we show that persistent endotoxin increases the frequency of Ki-67(+) HSCs and severely depletes CLPs and B precursors. Together, our findings show that murine HSPCs directly respond to endotoxin in vivo and that persistent LPS, a feature of several diseases of global health significance, impairs human lymphopoiesis.

PMID: 26276875 [PubMed - in process] PMCID: PMC4561199 [Available on 2016-09-15]

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There were **12** connections of patents to projects matching your search criteria.
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-ast

Core Project Number	Patent Number	Patent Title	Patent Owner	Similar Projects
ZIASC006538	7320991	Analogs of thalidomide as potential angiogenesis inhibitors		
ZIASC006538	8716315	Analogs of thalidomide as potential angiogenesis inhibitors		
P30CA047904	6280956	Antibodies to bladder cancer nuclear matrix proteins and their use	UNIVERSITY OF PITTSBURGH	
P30CA047904	6951926	Antibody to bladder cancer nuclear matrix protein and its use	UNIVERSITY OF PITTSBURGH	
P30CA047904	7258991	Antibody to bladder cancer nuclear matrix protein and its use	UNIVERSITY OF PITTSBURGH	
P30CA047904	5866535	Bladder nuclear matrix proteins, polynucleotide sequences encoding them, and their use	UNIVERSITY OF PITTSBURGH	
R01DC005987	8232314	Compounds that protect against sensory hair cell death	UNIVERSITY OF WASHINGTON	
P30CA047904	8173366	Genetic changes in ATM and ATR/CHEK1 as prognostic indicators in cancer	UNIVERSITY OF PITTSBURGH	
P30CA047904	8466123	Genetic changes in ATM and ATR/CHEK1 as prognostic indicators in cancer	UNIVERSITY OF PITTSBURGH	
R01DC000200	6136785	Protection from loss of sensory hair cells in the inner ear by administration of insulin-like growth factor and platelet derived growth factor	UNIVERSITY OF VIRGINIA	
ZIASC006538	8143252	Tetrahalogenated compounds useful as inhibitors of angiogenesis		
ZIASC006538	7973057	Thalidomide analogs		

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1	ZIG AA000600 06	OFFICE OF LABORATORY ANIMAL SCIENCE	BARNES, ANDREA	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM	2014	NIAAA	NIAAA	$3,807,039	

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Core Project Number	ClinicalTrials.gov ID	Study	Study Status
P30CA047904	NCT01154426	ABT-888 and Gemcitabine Hydrochloride in Treating Patients With Advanced Solid Tumors	COMPLETED
P30CA051008	NCT00003297	Combination Chemotherapy Plus Peripheral Stem Cell Transplantation in Treating Patients With Stage III or Stage IV Ovarian Cancer	COMPLETED
P30CA051008	NCT00003035	Doxorubicin and Paclitaxel in Treating Women With Locally Advanced Breast Cancer	COMPLETED
P30CA051008	NCT00020748	Epirubicin Plus Irinotecan in Treating Patients With Advanced Cancer	COMPLETED
P30CA051008	NCT00898937	Gene Expression in Tumor Tissue From Women Undergoing Surgery for Breast Cancer or Core Biopsy of the Breast	TERMINATED
P30CA051008	NCT00416754	Genetic Counseling in Women at Risk for BRCA1 or BRCA2 Mutations	ACTIVE, NOT RECRUITING
P30CA051008	NCT00262899	Genetic Counseling or Usual Care in Helping Women With Newly Diagnosed Ductal Carcinoma In Situ or Stage I, Stage II, or Stage IIIA Breast Cancer Make Treatment Decisions	COMPLETED
P30CA051008	NCT00088829	Genetic Testing in Predicting Response to Paclitaxel in Women With Breast Cancer	ACTIVE, NOT RECRUITING
P30CA047904	NCT01935921	Ipilimumab, Cetuximab, and Intensity-Modulated Radiation Therapy in Treating Patients With Previously Untreated Stage III-IVB Head and Neck Cancer	RECRUITING
P30CA051008	NCT02160015	Lenalidomide, Ibrutinib, and Rituximab in Treating Patients With Relapsed or Refractory Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma	RECRUITING
P30CA047904	NCT00363428	Lung Rehabilitation in Treating Patients With Chronic Obstructive Pulmonary Disease Who Are Undergoing Surgery for Lung Cancer	ACTIVE, NOT RECRUITING
P30CA051008	NCT00685256	Standard Genetic Counseling With or Without a Decision Guide in Improving Communication Between Mothers Undergoing BRCA1/2 Testing and Their Minor-Age Children	RECRUITING
P30CA051008	NCT01012804	Study of Biomarkers in Tissue Samples From Patients With Metastatic Colon Cancer	WITHDRAWN
P30CA051008	NCT00459238	Telephone-Based Cancer Education With or Without Telephone-Based Counseling in Young Participants	ACTIVE, NOT RECRUITING
P30CA051008	NCT00287898	Telephone-Based Genetic Counseling or Standard Genetic Counseling in Women at Risk of Carrying the BRCA1 or BRCA2 Mutation	ACTIVE, NOT RECRUITING
P30CA047904	NCT01749384	Tivantinib and Bevacizumab in Treating Patients With Solid Tumors That Are Metastatic or Cannot Be Removed by Surgery	ACTIVE, NOT RECRUITING

☐	1 ZIG AA000600 06	OFFICE OF LABORATORY ANIMAL SCIENCE	BARNES, ANDREA	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM	2014	NIAAA	NIAAA	$3,807,039	

arch resulted in 18 Administering Institute/Center(s).

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CHARTS | CIRCLES BETA

mmary by Administering Institute/Center

Chart • Projects • Project Funding • Project Publications

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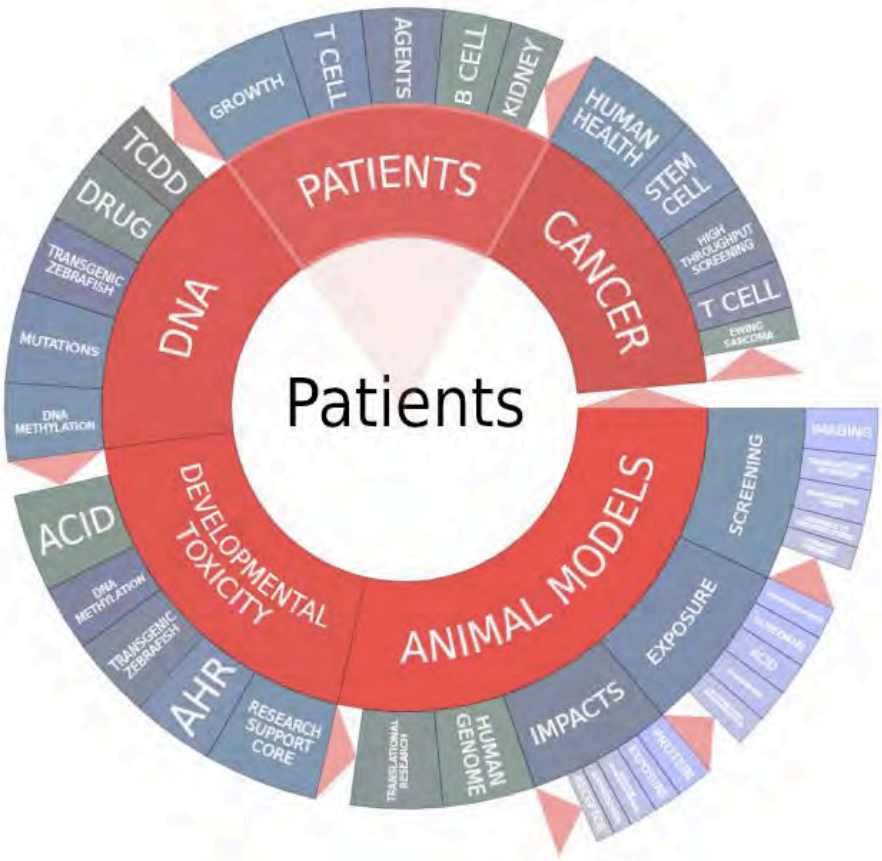

List of Projects

1ZIASC006538-21	DEVELOPMENT OF ANGIOGENESIS INHIBITORS
5K99CA181500-02	THE ROLE OF THE PROTEIN TYROSINE PHOSPHATASE PRL3 IN LEUKEMIA DEVELOPMENT
1ZIAHG000121-17	MOLECULAR AND CLINICAL STUDIES OF PRIMARY IMMUNODEFICIENCIES
3K08DK101340-02S1	A NOVEL ROLE FOR P53 IN CONGENITAL DISORDERS OF GLYCOSYLATION
1ZIAHG200372-04	GENETICS, PATHOPHYSIOLOGY, AND TREATMENT OF RECESSIVE AUTOINFLAMMATORY DISEASES
1R43AI110285-01	DESTROYING THE HIV-1 PROVIRUS BY UTILIZING COMPONENTS OF THE CRISPR/CAS SYSTEM
5R21AA022396-02	A ZEBRAFISH FETAL ALCOHOL SPECTRUM DISORDER MODEL OF CONGENITAL HEART DEFECTS
1R03AR067507-01A1	NOVEL APPROACHES FOR READ-THROUGH OF NONSENSE MUTATIONS IN COL7A1
5R21GM110184-02	ANALYSIS OF TRNA SYNTHETASE VARIANTS IN THE UNDIAGNOSED DISEASES PROGRAM
5R01CA034590-32	CHEMOKINE SIGNALS IN THE PREMETASTATIC NICHE INHIBIT METASTASIS
1R01HL128135-01	METABOLIC UNDERPINNINGS OF AL AMYLOID CARDIOMYOPATHY
2I01BX000820-05A2	CDC-42 AND THE EXOCYST IN CILIOGENESIS AND POLYCYSTIC KIDNEY DISEASE
5P20GM103638-04 (7862)	FUNCTIONAL ANALYSIS OF EWING SARCOMA PROTEINS EWS/FLI1 AND EWS IN ZEBRAFISH
5R01AA018886-05	THE IMPACT OF THE UNFOLDED PROTEIN RESPONSES ON STEATOSIS
5R21CA187516-02	A NOVEL FUNCTIONAL GENOMIC PIPELINE FOR TARGET IDENTIFICATION IN SARCOMA
5R01DC000200-30	GROWTH AND REGENERATION IN THE INNER EAR
5R01CA176746-04	DISCOVERY OF NEW TARGETS AND PATHWAYS FOR T-ALL THERAPY
5R01DK090311-05	ESTROGEN REGULATION OF HEPATIC GROWTH
5R01DK098135-02	FUNCTIONAL AND PHENOTYPIC CHARACTERIZATION OF A NEW FSGS GENE
5R01HL119234-02	HEART FAILURE IN CANCER PATIENTS
5R21CA159203-02	GENETIC MODIFIERS FOR CANCER STEM CELLS IN SECONDARY MDS/AML
5R01CA169117-03	TARGETING FERRITIN IN GLIOBLASTOMA
5R01DK072381-09	KIDNEY INJURY MOLECULE-1 IN EPITHELIAL REPAIR
5K08DK101340-03	A NOVEL ROLE FOR P53 IN CONGENITAL DISORDERS OF GLYCOSYLATION
5R01DK099551-02	NEW CONGENITAL DISORDERS OF GLYCOSYLATION: THERAPY AND MODELS

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Click on a Country/State to view details. Each red circle represents the location of a funded organization that may have one or more projects. Project Number and Title are linked to project information pages.

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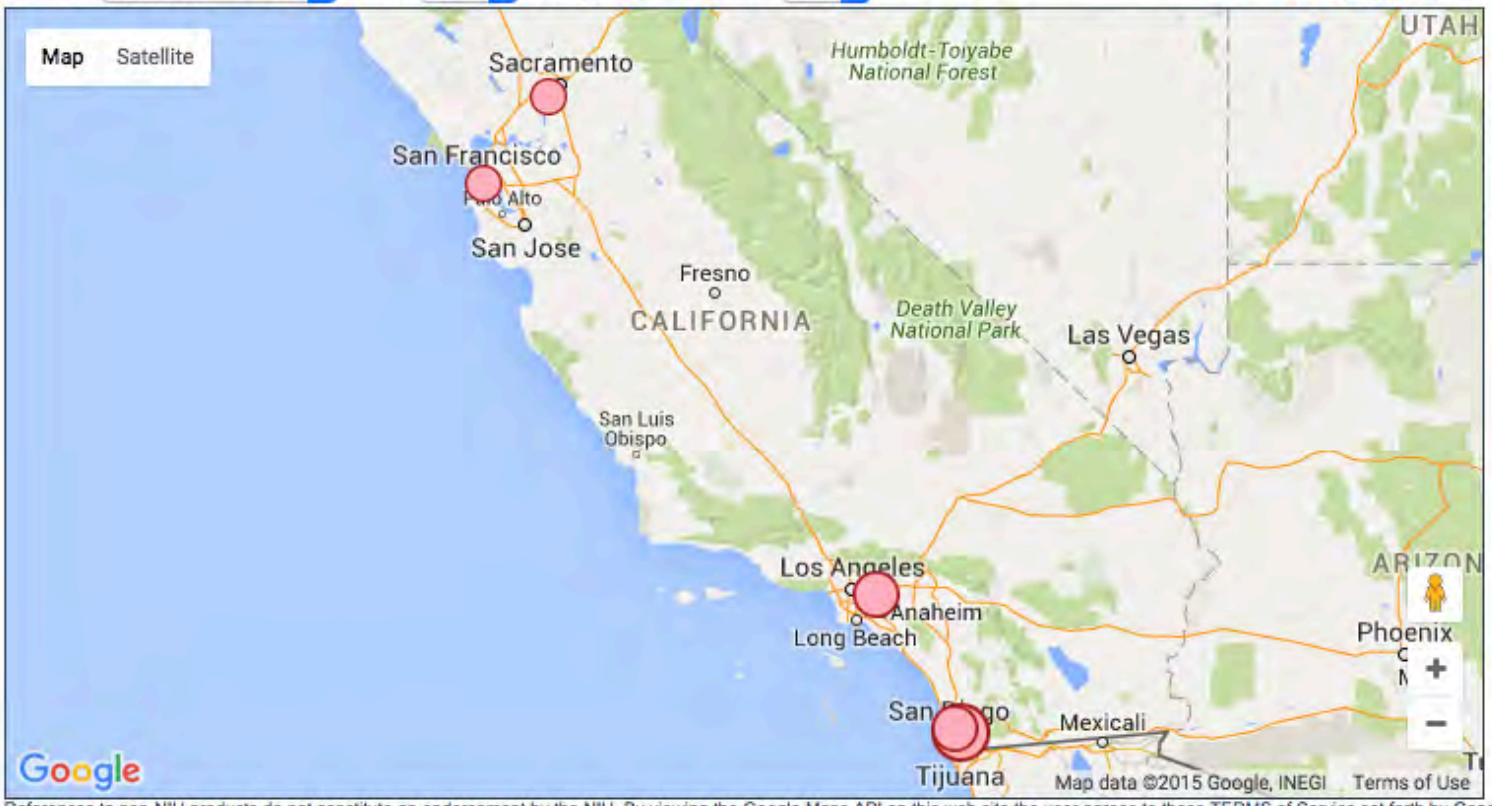
Country: UNITED STATES State: CA Congressional District: All MIN MAX



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Press Releases 37 Press Releases found.

There are 37 news items citing 15 project(s).

Records per page 25

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Grant Number	News	
ES017552	Nanoparticles u… nitric oxide	
ES022644	Gene therapy p… study	
DK092111	Plant Toxin Cau…	
CA051008	Finding liver ca…	
CA051008	Maternal stress… model	
CA047904	Pitt cancer virol… make proteins	
DA031367	Feeling sleepy?	
MH102680	Genome-wide s… important in neu…	
MH102680	Genomewide S… Important in Ne…	
ES021985	New Insights In… Drug Chemothe…	
CA051008	When cancer c…	
ES024915	NIEHS Funds S…	
CA047904	Coupling head and neck cancer screening and lung cancer scans could improve survival	Jan 2015
GM104318	Tiny fish provides giant insight into how organisms adapt to changing environment	Nov 2014

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NEWS RELEASE

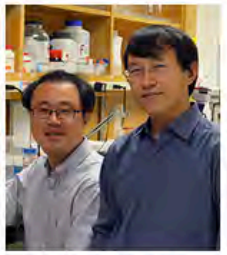
TSRI Scientists Find Clues to Cancer Drug Failure

LA JOLLA, CA – March 2, 2015 – Cancer patients fear the possibility that one day their cells might start rendering many different chemotherapy regimens ineffective. This phenomenon, called multidrug resistance, leads to tumors that defy treatment.

Now scientists at The Scripps Research Institute (TSRI) have published a pair of studies showing how the primary protein responsible for multidrug chemotherapy resistance changes shape and reacts to therapeutic drugs.

"This information will help us design better molecules to inhibit or evade multidrug resistance," said TSRI Associate Professor Qinghai Zhang, a senior author of both studies.

The findings were published recently in two papers: a study in the journal *Structure* co-led by Bridget Carragher, a professor at TSRI with a joint appointment at the New York Structural Biology Center, and a paper *in Acta Crystallographica Section D* co-led by Geoffrey Chang, professor in the UC San Diego Skaggs School of Pharmacy and Pharmaceutical Sciences.



TSRI Associate Professor Qinghai Zhang (right), shown here with Research Associate Sung Chang Lee, was a senior author of both studies. (High-res image)

FOR MORE INFORMATION

Qinghai Zhang Biosketch

Zhang Lab Website

Structure paper

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PROJ

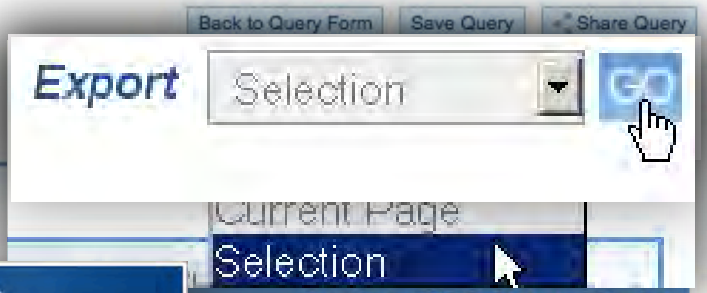
There

Click

T: Application Type; Act: Activity Code; Project: Admin IC,Serial No.; Year: Support Year/Supplement/Amendment

T	Act	Project	Year	Sub #	Project Title	Contact PI/ Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
		273201100001C-3-0-2			HIGH THROUGHPUT SCREENING	ALGAIER, CLARK	MIDWEST RESEARCH INSTITUTE	2013	NIEHS	NIEHS	$521,169	
1	R01	ES024915	01		ROLE OF DE NOVO DNMTS IN TOXICANT INDUCED ALTERATIONS IN DNA METHYLATION	ALURU, NEELAKANTESWAR	WOODS HOLE OCEANOGRAPHIC INSTITUTION	2015	NIEHS	NIEHS	$478,997	
5	P01	ES021921	04	5582	DISTRIBUTION, PROVENANCE, AND HUMAN HEALTH IMPLICATIONS OF MARINE POLYBROMINATED	ALUWIHARE, LIHINI	UNIVERSITY OF CALIFORNIA SAN DIEGO	2015	NIEHS		*$114,028*	
5	R13	HD075578	03		STRATEGIC CONFERENCE OF ZEBRAFISH INVESTIGATORS	AMACHER, SHARON L	OHIO STATE UNIVERSITY	2015	NICHD	NICHD NIDDK	$10,000 $2,000	
5	R21	CA187516	02		A NOVEL FUNCTIONAL GENOMIC PIPELINE FOR TARGET IDENTIFICATION IN SARCOMA	AMATRUDA, JAMES F et al.	UT SOUTHWESTERN MEDICAL CENTER	2015	NCI	NCI	$165,530	
5	R21	GM110184	02		ANALYSIS OF TRNA SYNTHETASE VARIANTS IN THE UNDIAGNOSED DISEASES PROGRAM	ANTONELLIS, ANTHONY	UNIVERSITY OF MICHIGAN	2015	NIGMS	OD	$226,475	
5	P20	GM103638	04	7862	FUNCTIONAL ANALYSIS OF EWING SARCOMA PROTEINS EWS/FLI1 AND EWS IN ZEBRAFISH	AZUMA, MIZUKI	UNIVERSITY OF KANSAS LAWRENCE	2015	NIGMS		*$184,326*	
5	K01	OD010462	03		ADULT AND TRANSGENERATIONAL TOXICITY DUE TO DEVELOPMENTAL TCDD EXPOSURE	BAKER, TRACIE R.	UNIVERSITY OF WISCONSIN-MADISON	2015	OD	OD	$131,466	
1	ZIG	AA000600	06		OFFICE OF LABORATORY ANIMAL SCIENCE	BARNES, ANDREA	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM	2014	NIAAA	NIAAA	$3,807,039	

Search Results



PROJECTS | PUBLICATIONS | PATENTS | CLINICAL STUDIES | DATA & VISUALIZE | MAP | NEWS & MORE

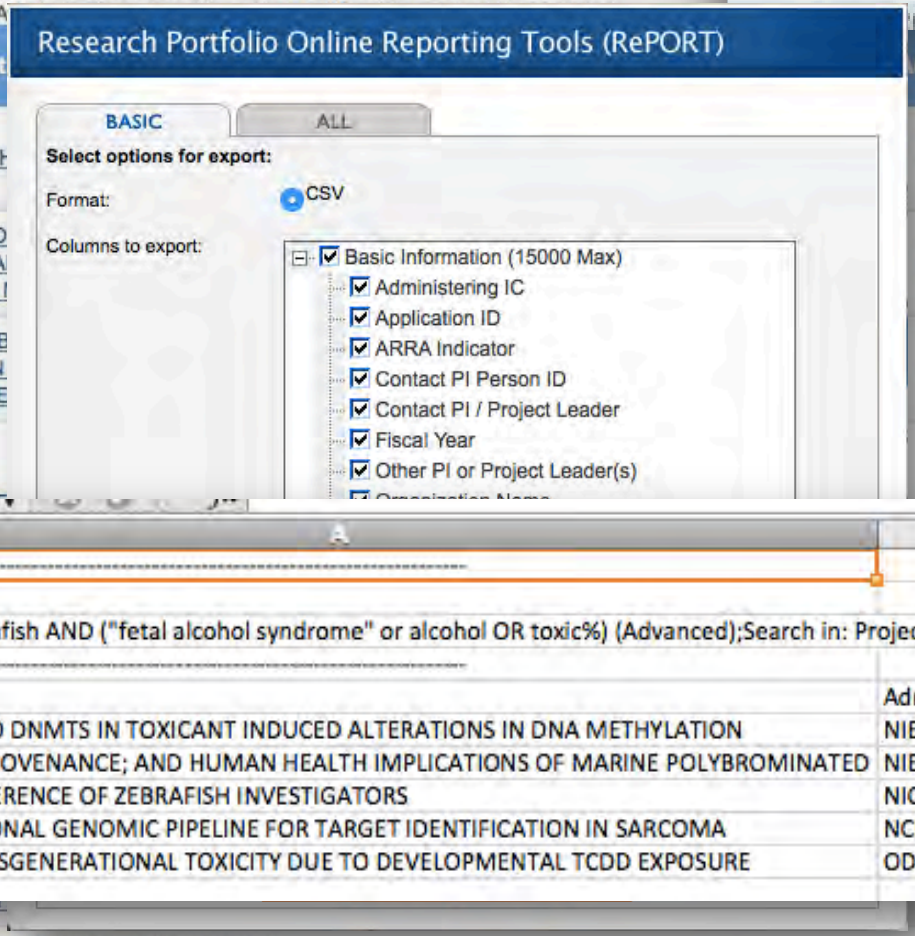
There were **139** results matching your search criteria.

Records per page 25

Click on the column header to sort the results

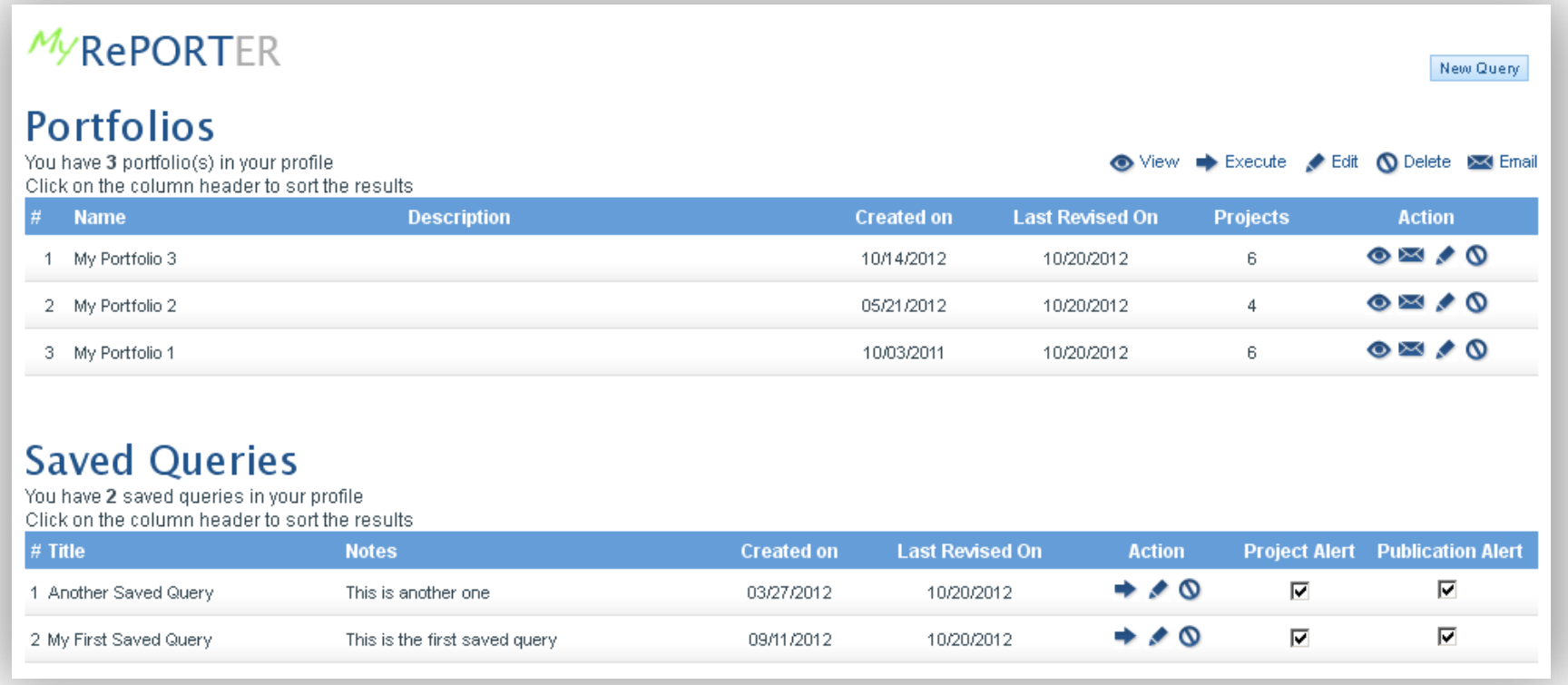
1 2 3 4 5 6

T: Application Type; Act: Activity Code; Project: A



	A	B	C	D
1	----------			
2	Search Criteria:			
3	Text Search: zebrafish AND ("fetal alcohol syndrome" or alcohol OR toxic%) (Advanced);Search in: Projects AdminIC: All; Fiscal Year: Active Projects			
4	----------			
5	Project Title	Administerin	Application I	Project Number
6	ROLE OF DE NOVO DNMTS IN TOXICANT INDUCED ALTERATIONS IN DNA METHYLATION	NIEHS	8813984	1R01ES024915-01
7	DISTRIBUTION; PROVENANCE; AND HUMAN HEALTH IMPLICATIONS OF MARINE POLYBROMINATED	NIEHS	8902147	5P01ES021921-04
8	STRATEGIC CONFERENCE OF ZEBRAFISH INVESTIGATORS	NICHD	8788481	5R13HD075578-03
9	A NOVEL FUNCTIONAL GENOMIC PIPELINE FOR TARGET IDENTIFICATION IN SARCOMA	NCI	8887319	5R21CA187516-02
10	ADULT AND TRANSGENERATIONAL TOXICITY DUE TO DEVELOPMENTAL TCDD EXPOSURE	OD	8827435	5K01OD010462-03
11				

	T	Act	Project	Year	Sub #	Project								Similar Projects
☐			273201100001C-3-0-2			HIGH TH						NIEHS	NIEHS	$521,169	
☑	1	R01	ES024915 01			ROLE O TOXICA IN DNA I						NIEHS	NIEHS	$478,997	
☑	5	P01	ES021921 04		5582	DISTRIB HUMAN MARINE						NIEHS		*$114,028*	
☑	5	R13	HD07										NICHD	$10,000	
☑	5	R21	CA18												
☐	5	R21	GM11												
☐	5	P20	GM10												
☑	5	K01	OD010462 03			ADULT AND TRANSGENERATIONAL TOXICITY DUE TO DEVELOPMENTAL TCDD EXPOSURE	BAKER, TRACIE R.	UNIVERSITY OF WISCONSIN-MADISON	2015	OD	OD			$131,466	
☐	1	ZIG	AA000600 06			OFFICE OF LABORATORY ANIMAL SCIENCE	BARNES, ANDREA	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM	2014	NIAAA	NIAAA			$3,807,039	



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#	Name	Description	Created on	Last Revised On	Projects	Action
1	My Portfolio 3		10/14/2012	10/20/2012	6	
2	My Portfolio 2		05/21/2012	10/20/2012	4	
3	My Portfolio 1		10/03/2011	10/20/2012	6	

Saved Queries

You have **2** saved queries in your profile
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#	Title	Notes	Created on	Last Revised On	Action	Project Alert	Publication Alert
1	Another Saved Query	This is another one	03/27/2012	10/20/2012		☑	☑
2	My First Saved Query	This is the first saved query	09/11/2012	10/20/2012		☑	☑

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Begins with
Exact
Department:
SELECT
Organization Type:
State:
Country:
Congressional District:
DUNS Number:
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Text Search (Logic):
And
Or
Advanced
Search in
Projects
Publications
Projects & Publications
Limit Project search to
Project Title
Project Terms
Project Abstracts
Limit Publication search to
Start Year 2012
End Year 2013
PROJECT DETAILS
Project Number/ Application ID:
Use % for wildcard in project number, e.g. %R21%
Enter multiple project numbers/application IDs
OR
1 R01 CA 211099 01 A1S1
Program Officer (PO):
(Last Name, First Name)
Use % for wildcard
Project Start Date: >=
Format: mm/dd/yyyy
Project End Date: <=
Format: mm/dd/yyyy
Award Notice Date:
Format: mm/dd/yyyy
Agency/Institute/Center:
Admin
Funding
NIH Spending Category:
Funding Mechanism:
Award Type:
Activity Code:
Study Section:
Standing CSR study sections only
FOA:
Format: RFA-HC-09-003 or PA-09-003
Use % for wildcard
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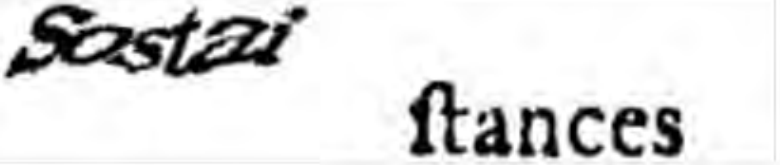
2. Lowercase (a-z)
3. Numeric (0-9)
4. Symbol (~!@#$%^&*())

* Verification:



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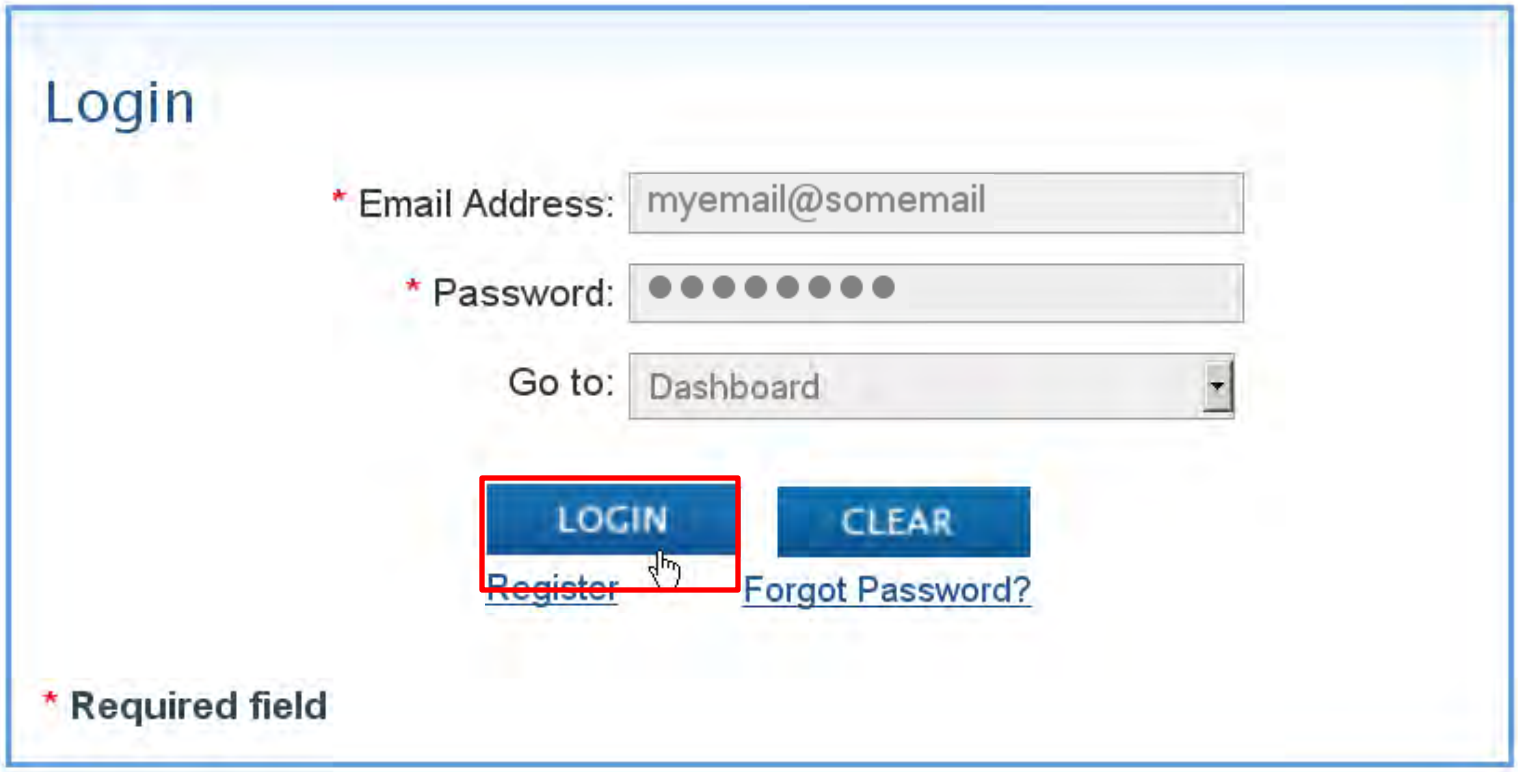

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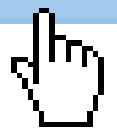
New Query



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You have **0** portfolio(s) in your profile

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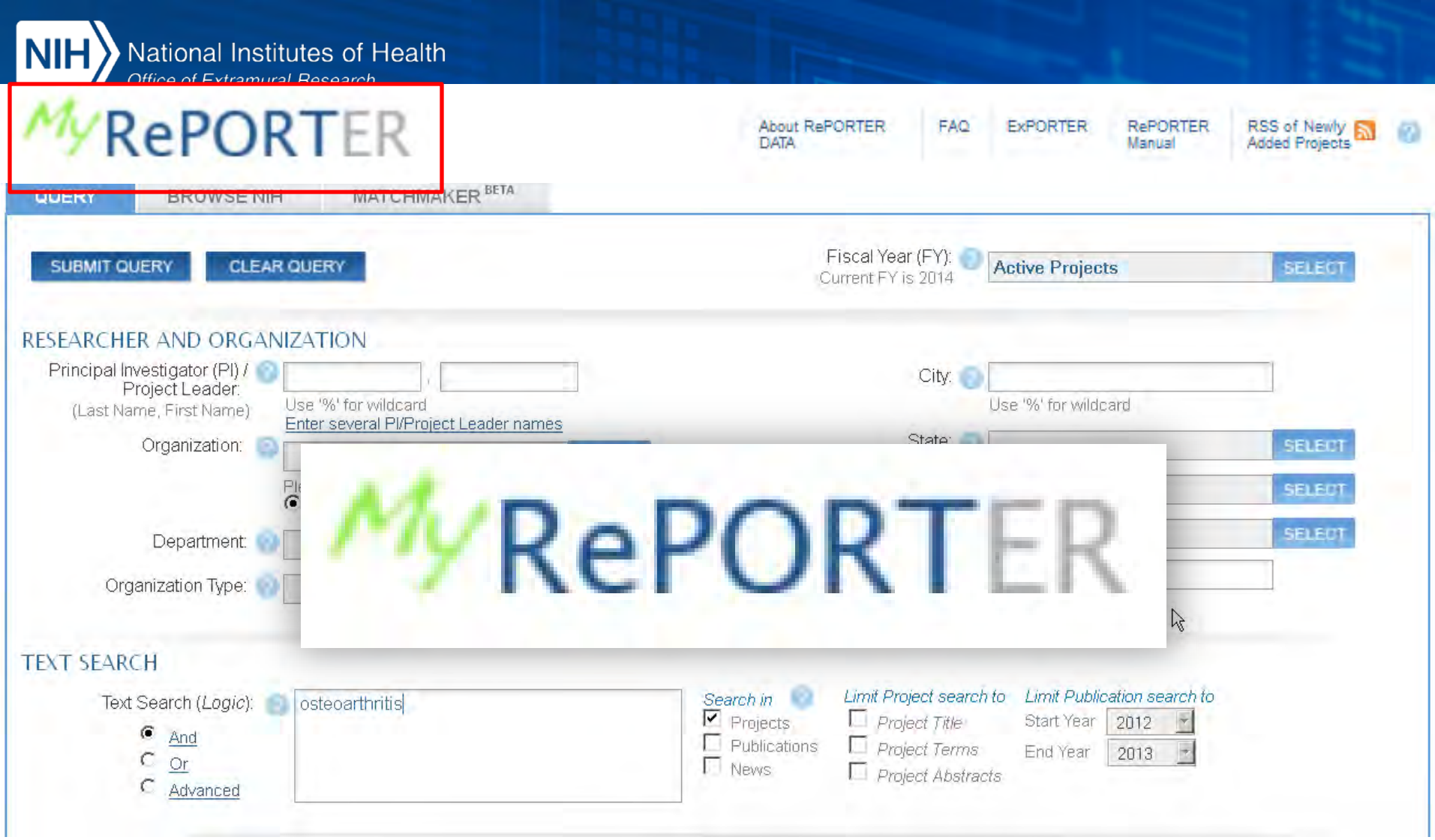
#	Name	Description	Created on	Last Revised On
No records found.				

Saved Queries

You have **0** saved queries in your profile

#	Title	Notes	Created on	Last Revised On	Action	Project Alert	Publication Alert
No records found.							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Fiscal Year (FY):
Current FY is 2014
Active Projects
SELECT
RESEARCHER AND ORGANIZATION
Principal Investigator (PI) / Project Leader:
(Last Name, First Name)
Use '%' for wildcard
Enter several PI/Project Leader names
City:
Use '%' for wildcard
Organization:
State:
Department:
Organization Type:
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Fiscal Year (FY): Active Projects SELECT
Current FY is 2014

RESEARCHER AND ORGANIZATION

Principal Investigator (PI) / Project Leader: (Last Name, First Name)
Use '%' for wildcard
Enter several PI/Project Leader names

Organization: LOOKUP
Please enter at least 3 characters to use Lookup.
Contains | Begins with | Exact

Department: SELECT

Organization Type: SELECT

City:
Use '%' for wildcard

State: SELECT

Country: SELECT

Congressional District: SELECT

DUNS Number:

TEXT SEARCH

Text Search (*Logic*): osteoarthritis

Search in | Limit Project search to | Limit Publication search to

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Text Search (*Logic*): osteoarthritis

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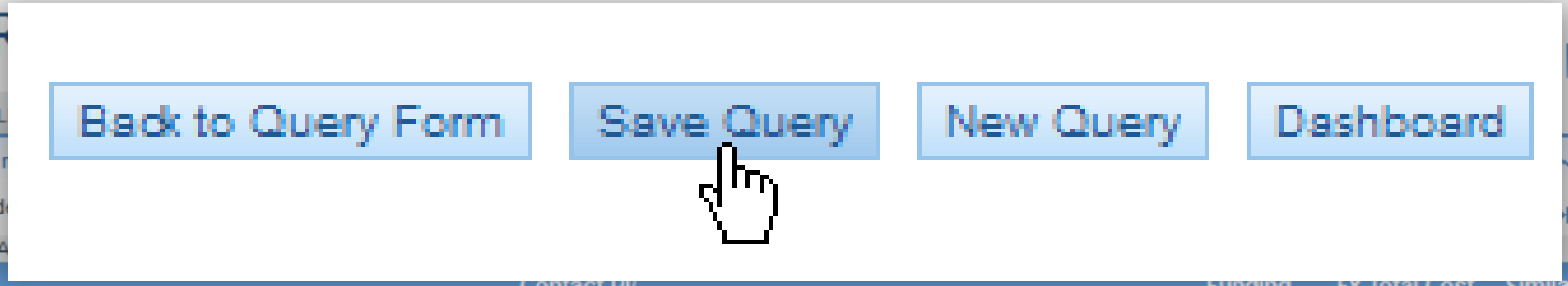

PROJECTS | PUBL

There were 808 results

Click on the column head

T: Application Type; Act: A

	T	Act	Project	Year	Sub #	Project Title	Contact PI/ Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
☐	5	K24	AR002128	09		PHYSICOCHEMICAL SIGNALING IN OSTEOARTHRITIS	AARON, ROY K	RHODE ISLAND HOSPITAL	2011	NIAMS	NIAMS	$157,989	
☐	5	U42	OD011197	13		CHIMPANZEE BIOMEDICAL RESEARCH RESOURCE	ABEE, CHRISTIAN R	UT MD ANDERSON CANCER CTR	2013	OD	OD	$2,437,039	
☐	5	F31	AG039975	03		AGING OSTEOARTHRITIS EFFECT ON STRUCTURE-FUNCTION OF HUMAN MENISCAL ATTACHMENTS	ABRAHAM, ADAM CHRISTOPHER	COLORADO STATE UNIVERSITY	2013	NIA	NIA	$37,555	
☐	3	R01	AR052873	08S1		LEUKOCYTE GENE EXPRESSION AND GENETIC BIOMARKERS OF OA INCIDENCE AND PROGRESSION	ABRAMSON, STEVEN B	NEW YORK UNIVERSITY SCHOOL OF MEDICINE	2013	NIAMS	OD	$35,680	
☐	5	R01	AR052873	08		LEUKOCYTE GENE EXPRESSION AND GENETIC BIOMARKERS OF OA INCIDENCE AND PROGRESSION	ABRAMSON, STEVEN B	NEW YORK UNIVERSITY SCHOOL OF MEDICINE	2013	NIAMS	NIAMS	$681,007	
☐	3	R01	AR054817	05S1		REGULATION OF CHONDROCYTES BY EXTRACELLULAR MATRIX PROTEIN.	ABRAMSON, STEVEN B	NEW YORK UNIVERSITY SCHOOL OF MEDICINE	2013	NIAMS	OD	$137,334	
☐	5	R01	AR054817	05		REGULATION OF CHONDROCYTES BY EXTRACELLULAR MATRIX PROTEIN.	ABRAMSON, STEVEN B	NEW YORK UNIVERSITY SCHOOL OF MEDICINE	2013	NIAMS	NIAMS	$344,336	
☐	3	R01	AR062173	02S1		REGULATION OF BONE LOSS BY IL-23/IL-17A AXIS IN INFLAMMATORY ARTHRITIS	ADAMOPOULOS, IANNIS ELIAS	UNIVERSITY OF CALIFORNIA DAVIS	2013	NIAMS	NIAMS	$59,459	
☐	5	R01	AR062173	02		REGULATION OF BONE LOSS BY IL-23/IL-17A AXIS IN INFLAMMATORY	ADAMOPOULOS, IANNIS	UNIVERSITY OF	2013	NIAMS	NIAMS	$329,175	

Save New Query

* Title:
New Projects Alert:
New Publications Alert:
New News Alert:
Notes:

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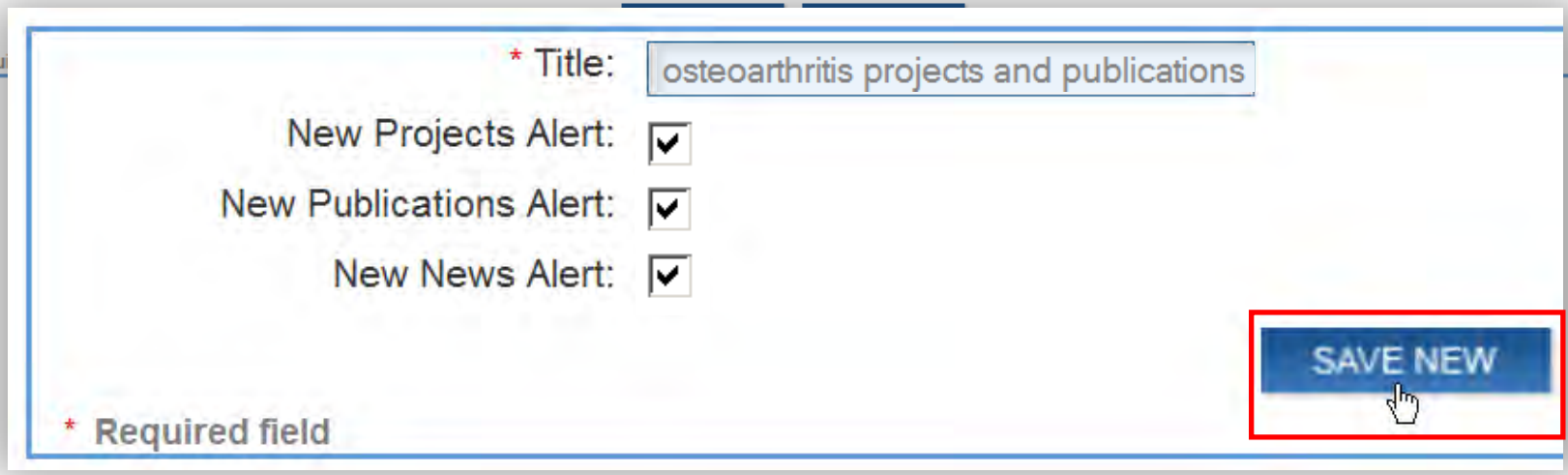

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Saved Queries

You have **9** saved queries in your profile
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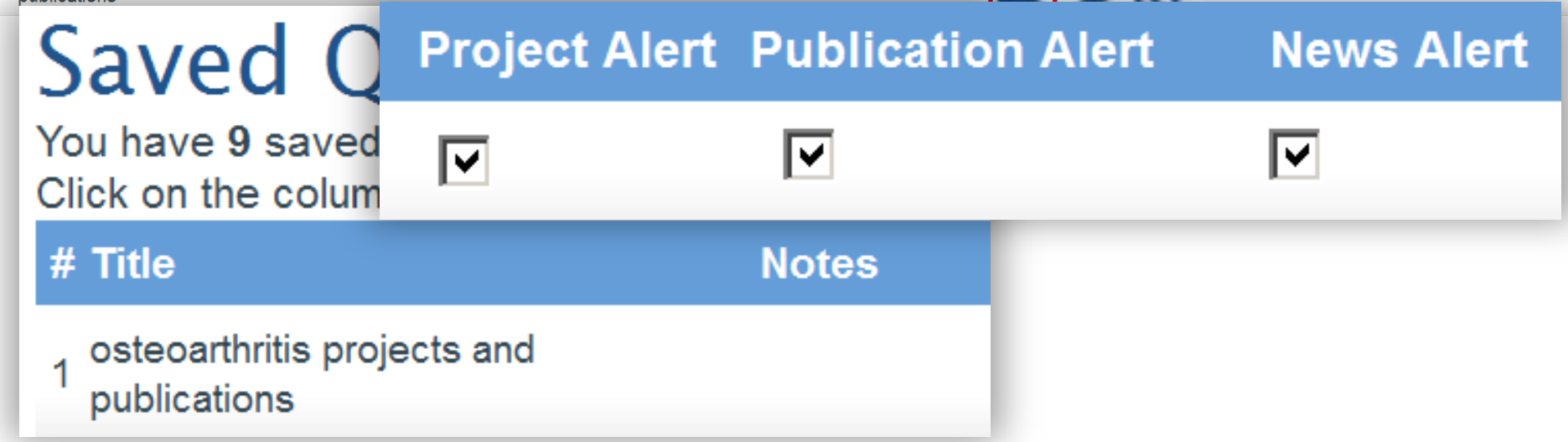
#	Title	Notes	Created on	Last Revised On	Action	Alert	Publication Alert	News Alert
1	osteoarthritis projects and publications		10/31/2013	10/31/2013			☑	☑



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Project Information

1K23AR062099-01A1

PREVIOUS Project 13 of 808 NEXT

DESCRIPTION | DETAILS | RESULTS | HISTORY | SUBPROJECTS | SIMILAR PROJECTS | NEARBY PROJECTS | LINKS | NEWS AND MORE

Project Number: 1K23AR062099-01A1
Contact PI / Project Leader: SIBILLE, KIMBERLY THERESA
Title: BIOLOGICAL MARKERS OF SYSTEM BURDEN IN SYMPTOMATIC KNEE OA: A PROSPECTIVE STUDY
Awardee Organization: UNIVERSITY OF FLORIDA

Abstract Text:

DESCRIPTION (provided by applicant): **osteoarthritis** (OA) is a leading cause of pain and functional limitation in the United States. There are significant individual and ethnic group differences in the experience of OA. An improved understanding of factors contributing to the disparities and a biomarker reflecting the variability is needed. The research goals and career development training objectives identified in this K23 Mentored Patient-Oriented Research Career Development Award application have been developed to obtain the training and experience to pursue investigations of the biological interface of chronic pain and psychosocial stress in knee OA. Entitled Biological Markers of System Burden in Symptomatic Knee OA: A Prospective Study, the proposed study expands on current research supported in part through the Basic Behavioral and Social Science Opportunity Network (OppNet) specific to Dr. Sibille's research interests and career ambitions. Additionally, the proposed research aligns with the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) Long Range Plan for Fiscal Years 2010-2014 and the 2010 NIAMS Roundtable Summary. My career goals are to: 1) excel in an academic medical setting as a clinical/translational pain investigator with expertise in **osteoarthritis** involved in patient-oriented research and 2) contribute to the research and medical community through scholarship and education with an overall goal of improving the management, functioning, and quality of life for individuals with **osteoarthritis** and other pain-related conditions. My career development training objectives incorporate activities and experiences pertinent to my research goals and necessary to obtain R01 funding by 2016. Objective 1: Develop a comprehensive knowledge-base in **osteoarthritis** Objective 2: Broaden skills in multi-modal assessment of pain and functional limitations Objective 3: Increase understanding of genetics and stress-related biological systems Objective 4: Enhance management skills necessary to function as an independent researcher Objective 5: Strengthen skills in clinical/translational research, statistics, and scholarship My career development research and training efforts will be guided by an exceptional mentoring team, Roger Fillingim, Ph.D., Primary Mentor, will provide guidance and oversight in the multi-modal assessment of pain and functional limitations; the integration of biological and psychosocial factors; and my overall career development. Roland Staud, M.D., will oversee the development of a comprehensive knowledge-base in **osteoarthritis**. Christiaan Leeuwenburgh, Ph.D., Co-Mentor, will provide direction in areas related to metabolic processes, evaluating biological markers, and developing the skills necessary for translational investigation. Taimour Langaee, Ph.D., Co-Mentor, will assist with training and development in the areas of immunology, genetics, and telomere measures. Bruce McEwen, Ph.D., Consultant/Co-Mentor, will direct my training specific to neuroendocrine functioning, the effects of stress on health, and the application of the allostatic load model in the study of knee **osteoarthritis**. My transition to research independence will also be benefited by

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r results.

ontact PI / Project Leader
IBILLE, KIMBERLY
HERESA

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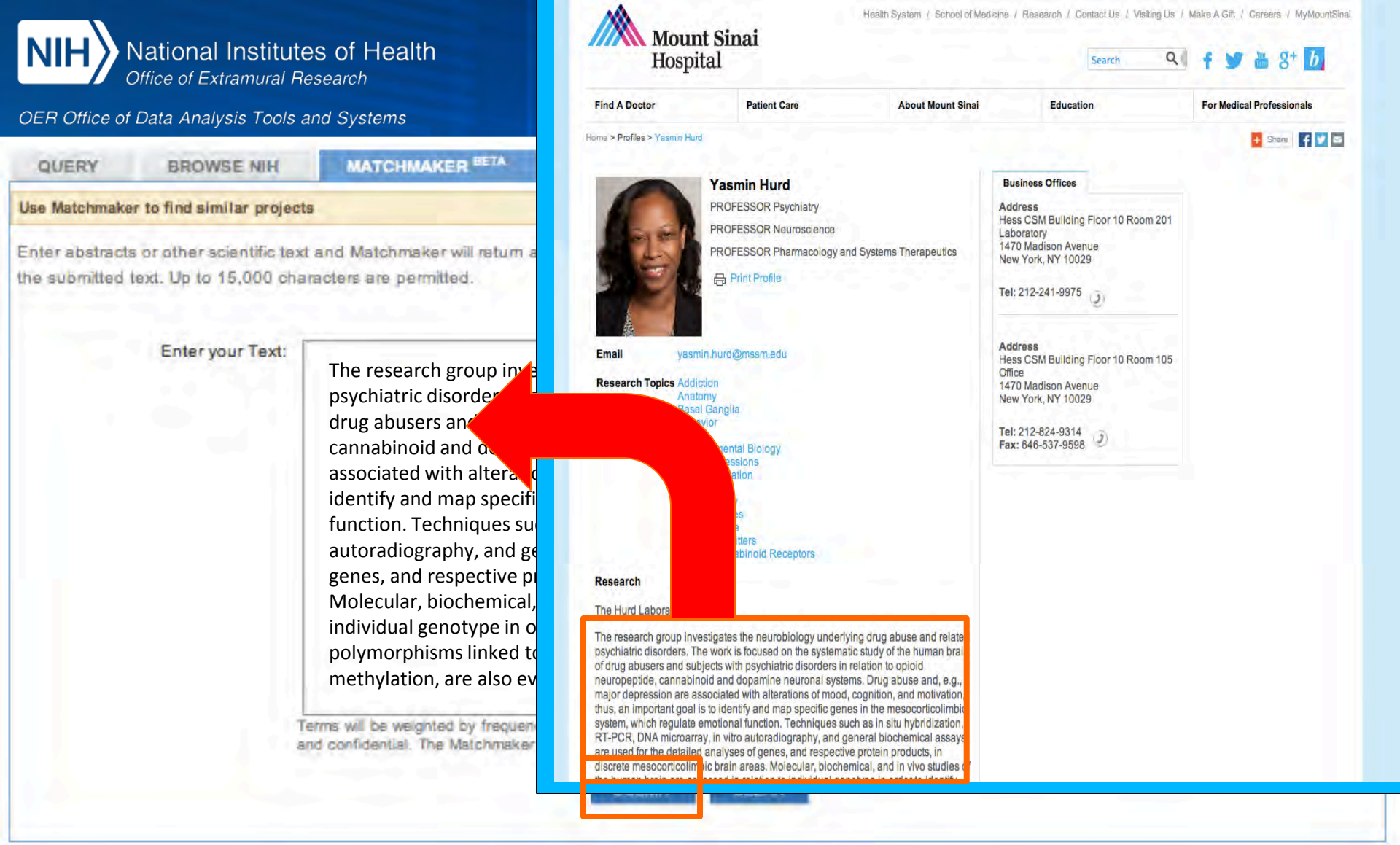
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psychiatric disorder
drug abusers an
cannabinoid and d
associated with altera
identify and map specifi
function. Techniques su
autoradiography, and ge
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Molecular, biochemical,
individual genotype in o
polymorphisms linked t
methylation, are also ev
Terms will be weighted by frequen
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Education
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Research Topics Addiction
Anatomy
Basal Ganglia
Research
The Hurd Labora
The research group investigates the neurobiology underlying drug abuse and relate
psychiatric disorders. The work is focused on the systematic study of the human brai
of drug abusers and subjects with psychiatric disorders in relation to opioid
neuropeptide, cannabinoid and dopamine neuronal systems. Drug abuse and, e.g.,
major depression are associated with alterations of mood, cognition, and motivation
thus, an important goal is to identify and map specific genes in the mesocorticolimbi
system, which regulate emotional function. Techniques such as in situ hybridization,
RT-PCR, DNA microarray, in vitro autoradiography, and general biochemical assays
are used for the detailed analyses of genes, and respective protein products, in
discrete mesocorticolimbic brain areas. Molecular, biochemical, and in vivo studies
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Laboratory
1470 Madison Avenue
New York, NY 10029
Tel: 212-241-9975
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1470 Madison Avenue
New York, NY 10029
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Matchmaker Results

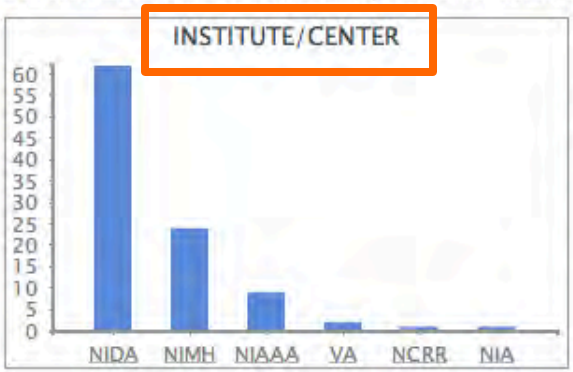
Matchmaker | New Query

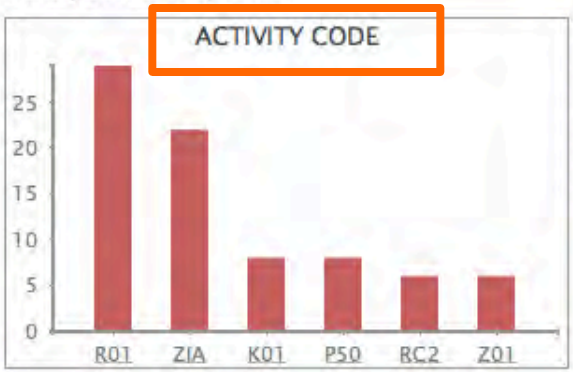
Export | All Projects | GO

100 projects similar to concepts from the entered text. (100 maximum).

Show/Hide Search Criteria

Click on chart labels to filter search results by the Institute/Center or Activity Code or Study Section





Click on the column header to sort the results

Records per page 25

1 2 3 4

Click here to view detailed Charts

1 of 4 Next Last

T: Application Type; Act: Activity Code; Project: Admin IC,Serial No.; Year: Support Year/Supplement/Amendment

Match Score	T Act	Project	Year	Sub #	Project Title	Contact PI / Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
975	5	F31	DA031559	03	PRENATAL CANNABIS EXPOSURE AND EPIGENETIC MECHANISMS UNDERLYING VULNERABILITY TO	MORRIS, CLAUDIA VARGAS	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2013	NIDA	NIDA	$31,762	
935	5	R01	DA033660	03	MULTIGENERATIONAL EPIGENETIC EFFECTS OF CANNABIS EXPOSURE	HURD, YASMIN L	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2014	NIDA	NIDA	$445,208	
886	5	F30	DA024929	05	BRAIN AND BEHAVIORAL EFFECTS OF PENK GENE MANIPULATION IN RAT NUCLEUS ACCUMBENS	TOMASIEWICZ, HILARIE C	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2012	NIDA	NIDA	$46,182	
879	5	R01	DA019350	06	NEURODEVELOPMENTAL EFFECTS OF ADOLESCENT CANNABIS USE	HURD, YASMIN L	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2008	NIDA	NIDA	$275,629	
869	5	F30	DA024929	03	BRAIN AND BEHAVIORAL EFFECTS OF PENK GENE MANIPULATION IN RAT NUCLEUS ACCUMBENS	TOMASIEWICZ, HILARIE C	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2010	NIDA	NIDA	$43,812	
862	5	F30	DA024929	02	BRAIN AND BEHAVIORAL EFFECTS OF PENK GENE MANIPULATION IN RAT NUCLEUS ACCUMBENS	TOMASIEWICZ, HILARIE C	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2009	NIDA	NIDA	$43,808	

Matchmaker Results

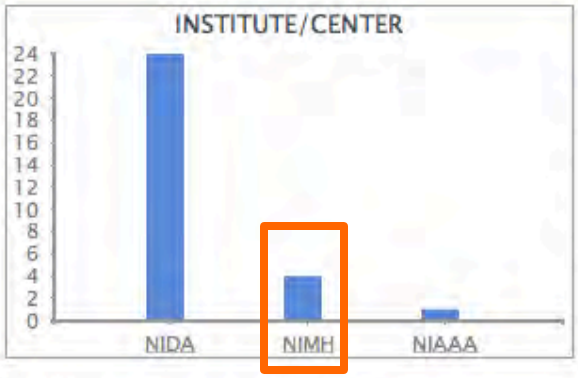
Matchmaker | New Query

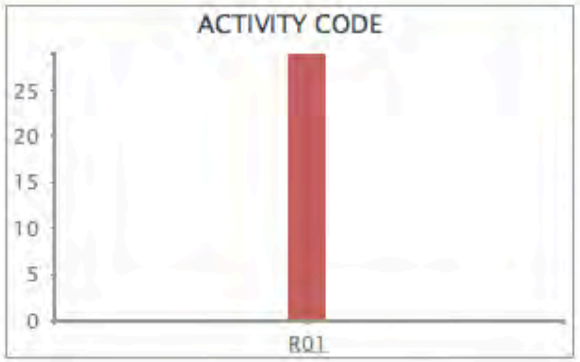
Export All Projects GO

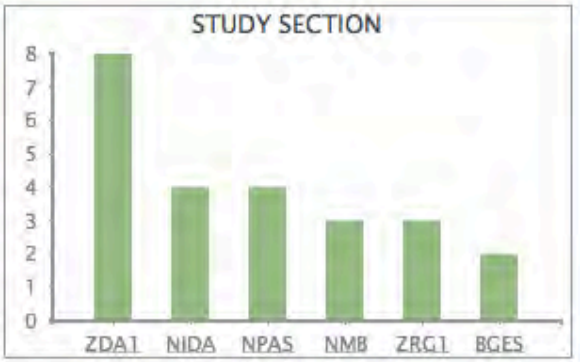
29 projects similar to concepts from the entered text. (100 maximum). Show/Hide Search Criteria

Click on chart labels to filter search results by the Institute/Center or Activity Code or Study Section

***Filter*: Activity Code:** R01 ☒







Click on the column header to sort the results

Records per page 25

1 2

Click here to view detailed Charts

1 of 2 Next Last

T: Application Type; Act: Activity Code; Project: Admin IC,Serial No.; Year: Support Year/Supplement/Amendment

Match Score	T	Act	Project	Year	Sub #	Project Title	Contact PI / Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
935	5	R01	DA033660	03		MULTIGENERATIONAL EPIGENETIC EFFECTS OF CANNABIS EXPOSURE	HURD, YASMIN L	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2014	NIDA	NIDA	$445,208	
879	5	R01	DA019350	06		NEURODEVELOPMENTAL EFFECTS OF ADOLESCENT CANNABIS USE	HURD, YASMIN L	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2008	NIDA	NIDA	$275,629	
731	5	R01	DA017846	05		EARLY STRESS, PTSD, AND THE NEUROBIOLOGY OF ADDICTION	TEICHER, MARTIN H	MCLEAN HOSPITAL	2008	NIDA	NIDA	$464,688	
715	5	R01	DA027261	05		BRAIN ENDOPHENOTYPES MODULATING DRUG ABUSE RISK	ZUCKER, ROBERT ALPERT	UNIVERSITY OF MICHIGAN AT ANN ARBOR	2013	NIDA	NIDA	$615,809	
713	5	R01	MH071313	05		PHYSIOLOGICAL FUNCTIONS OF	REINSCHEID, RAINER	UNIVERSITY OF	2009	NIMH	NIMH	$278,613	

Matchmaker Results

Matchmaker | New Query

Export All Projects GO

Project Information

5R01MH071313-05

Back to Matchmaker Hitlist | Matchmaker | Print Version

Project 1 of 2 NEXT

PI PROFILE LINKS MORE INFO

DESCRIPTION | DETAILS | RESULTS | HISTORY | SUBPROJECTS | SIMILAR PROJECTS | NEARBY PROJECTS BETA | LINKS | NEWS AND MORE

Project Number: 5R01MH071313-05
Title: PHYSIOLOGICAL FUNCTIONS OF NEUROPEPTIDE S

Contact PI / Project Leader: REINSCHEID, RAINER K
Awardee Organization: UNIVERSITY OF CALIFORNIA-IRVINE

Contact PI / Project Leader Information:

Name: REINSCHEID, RAINER K
Email: Click to view Contact PI / Project Leader email address
Title: ASSOCIATE PROFESSOR

Program Official Information:

Name: WINSKY, LOIS M.
Email: Click to view PO email address

Other PI Information:

Not Applicable

Profile Exists | No Profile

Organization:

Name: UNIVERSITY OF CALIFORNIA-IRVINE
City: IRVINE **Country:** UNITED STATES (US)

Department/ Organization Type:

PHARMACOLOGY
SCHOOLS OF MEDICINE

Congressional District:

State Code: CA
District: 45

Other Information:

FOA:
Study Section: Molecular Neuropharmacology and Signaling Study Section (MNPS)
Fiscal Year: 2009 **Award Notice Date:** 20-MAR-2009

DUNS Number: 046705849
Project Start Date: 8-APR-2005
Budget Start Date: 1-APR-2009

CFDA Code: 242
Project End Date: 31-MAR-2010
Budget End Date: 31-MAR-2010

Administering Institutes or Centers:

NATIONAL INSTITUTE OF MENTAL HEALTH

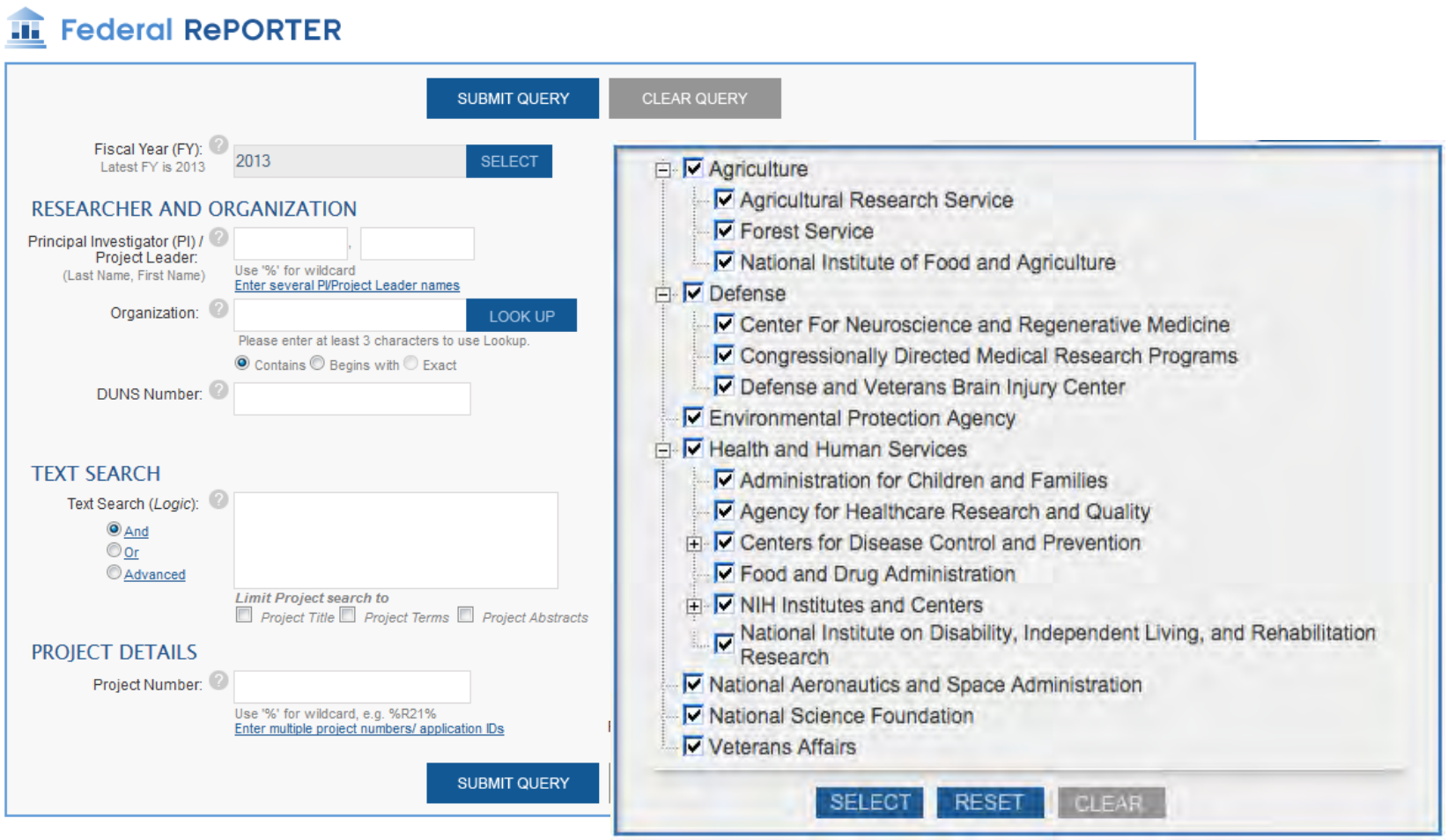
Project Funding Information for 2009:

Total Funding: $278,613

Year	Funding IC	FY Total Cost by IC
2009	NATIONAL INSTITUTE OF MENTAL HEALTH	$278,613

Federal RePORTER (Alpha)

http://FederalRePORTER.nih.gov



Federal RePORTER (Alpha)

http://FederalRePORTER.nih.gov

Federal RePORTER

SUBMIT QUERY | CLEAR QUERY

Fiscal Year (FY): 2013 SELECT
Latest FY is 2013

Agency: SELECT

RESEARCHER AND ORGANIZATION

Principal Investigator (PI) / Project Leader: (Last Name, First Name)
Use '%' for wildcard
Enter several PI/Project Leader names

Organization: LOOK UP
Please enter at least 3 characters to use Lookup.
Contains | Begins with | Exact

DUNS Number:

City:
Use '%' for wildcard

State: SELECT

Country: SELECT

Congressional District: SELECT

TEXT SEARCH

Text Search (*Logic*): And

"prairie dogs"

PROJECTS | DATA & VISUALIZE | MAP

There were **4** results matching your search criteria.
Click on the column header to sort the results

Show/Hide Search Criteria

Project Number	Project Title	Contact PI/ Project Leader	Organization	FY	Agency / IC	FY Total Cost	Similar Projects
ARS-0424946	IMPROVED MANAGEMENT TO BALANCE PRODUCTION AND CONSERVATION IN GREAT PLAINS RANGELANDS	DERNER, JUSTIN D et al.	RANGELAND RESOURCES RESEARCH	2014	ARS	$2,079,960	
1353466	"LTREB: IMPACTS OF POLYANDRY OVER THE LIFETIME OF A SOCIAL MAMMAL"	HOOGLAND, JOHN L et al.	UNIVERSITY OF MARYLAND CENTER FOR ENVIRONMENTAL SCIENCE	2014	NSF	$99,739	
1002126	MIXED-GRASS PRAIRIE MANAGEMENT FOR SUSTAINABLE PRODUCTION	JOHNSON, P, SE.	SOUTH DAKOTA STATE UNIVERSITY	2014	NIFA		
5U19AI107792-02 (8522)	GENES IN THE YERSINIA PESTIS LIFECYCLE	SCHNEEWIND, OLAF	UNIVERSITY OF CHICAGO	2014	NIAID	*$243,688*	

CORIELL INSTITUTE
FOR MEDICAL RESEARCH

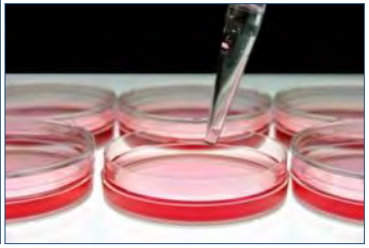
Resources for the 3 R's

Alissa M. Resch, Ph.D.

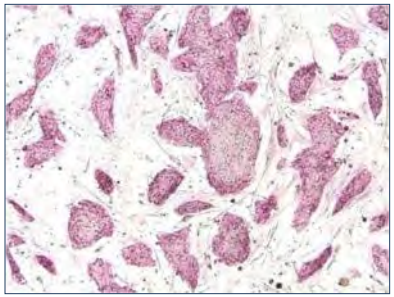
September 24, 2015

403 HADDON AVENUE, CAMDEN, NJ 08103 | CORIELL.ORG

Coriell Institute




Coriell Institute for Medical Research, founded in 1953 and based in Camden, New Jersey, is an independent non-profit research center dedicated to the study of the human genome. Expert staff and pioneering programs in the fields of personalized medicine, cell biology, cytogenetics, genotyping, and biobanking drive our mission.

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Overview of Coriell

- Basic biomedical research institute, committed to genetic research, biobanking, and education
- Home of the *Coriell Biorepositories* - ranks among the world's largest collection of living human cells and genomic DNA for use in research
- Funded iPSC laboratory and stem cell biobank
- Expert staff and pioneering programs in the fields of personalized medicine, cell biology, cytogenetics, genotyping, and biobanking
- ISO9001-2008 certified (Quality Management System)

We strive to provide the highest quality biomaterials and services to continuously meet the current and future needs of our customers.

Coriell Recognition

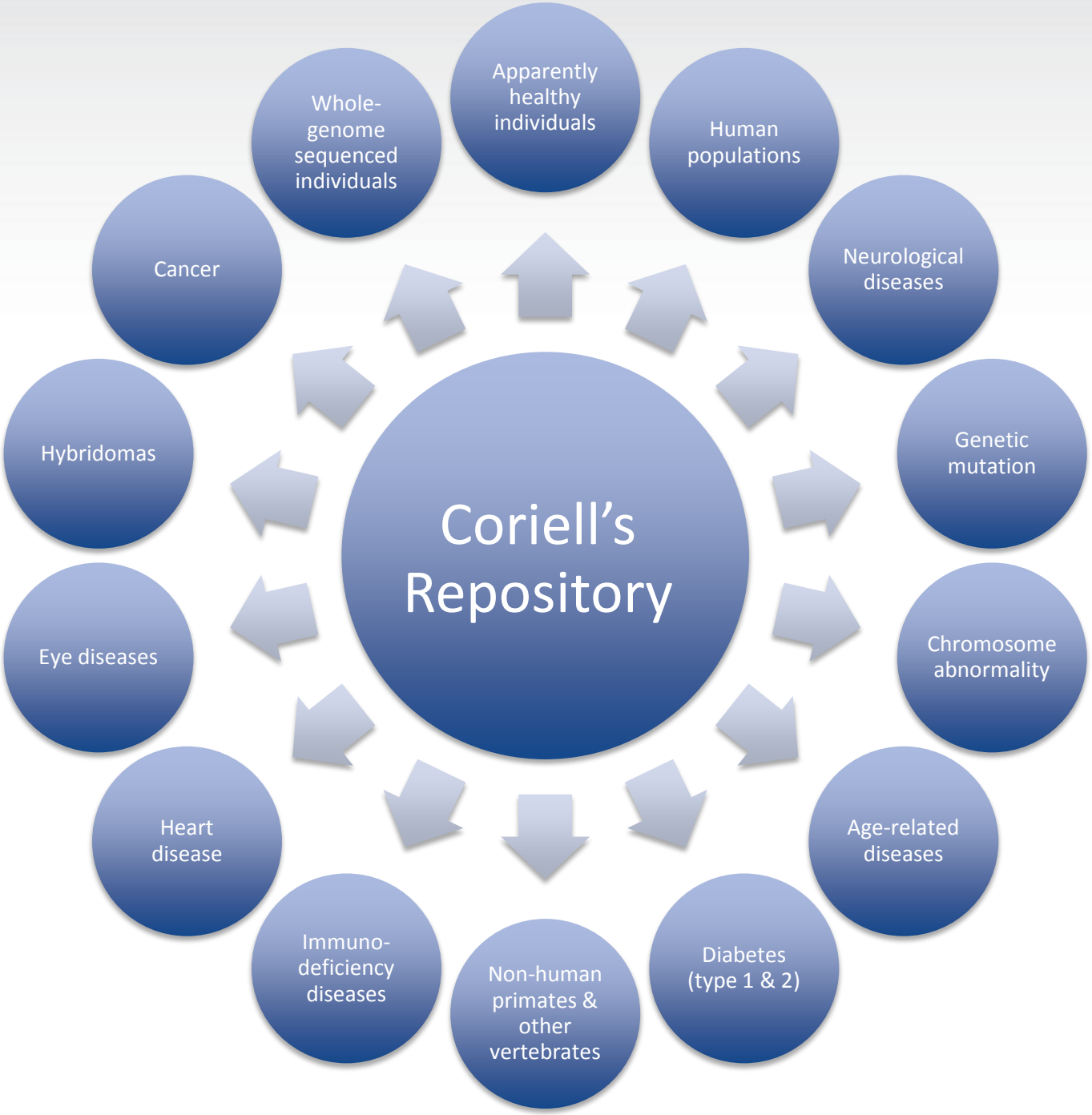
- “Pioneers in the field of personalized medicine”
  - Health and Human Services
- Top 10 “Research to Watch”
  - MIT Technology Review
- “Leading by example”
  - Nature Magazine
- “Transformations: 50 things that will change Philadelphia in 2015”
  - Philadelphia Business Journal

Coriell Biorepositories

Repository Highlights

Since 1964, NIH funding has supported Coriell Repository activities

- $48.4M in federally-sponsored contract awards in the last five years
- Originally executed in 1972, the NIGMS-Coriell contract is the longest uninterrupted contract at NIH


Coriell's Repository
Apparently healthy individuals
Human populations
Neurological diseases
Genetic mutation
Chromosome abnormality
Age-related diseases
Diabetes (type 1 & 2)
Non-human primates & other vertebrates
Immuno-deficiency diseases
Heart disease
Eye diseases
Hybridomas
Cancer
Whole-genome sequenced individuals

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Repository Collections and Services

Government Repositories

- NEI/AREDS
- NHGRI
- NIA
- NIGMS
- NINDS

Non-Profit Repositories

- ADA
- CHDI

Coriell-Owned Repositories

- Autism Resource
- IPBIR

Custom Services

- Cell culture
- Genotyping
- Molecular biology
- Stem cell

Safe Storage

- Fail-safe
- Short-term
- Long-term

Testing Services

- DNA fingerprinting
- Karyotyping
- Pluritest
- QPCR

Collection Types in the Repository

Funding Agency/Organization	Grant, Contract or Collection	Brief Overview
National Institute of General Medical Science (NIGMS)	1U42GM115336-01	Standard-setting collection used for disease gene discovery, with emphasis on Mendelian diseases and human populations, plus animal cell lines and DNA from dog, cow and hamster
National Institute of Neurological Disorder and Stoke (NINDS)	HHSN-271200800033C	Broad collection of human samples for study of neurological disorders, accompanied by rich phenotypic data
National Human Genome Research Institute (NHGRI)	HHSN-268201100040C	Landmark collection of human population samples from the International HapMap and 1000 Genomes Projects
National Institute on Aging (NIA)	HHSN-271201500003C	Diverse set of human and animal cell lines and DNA samples collected for aging studies, plus mouse ES cells and transgenic lines
California Institute for Regenerative Medicine (CIRM)	IR1-06600	Largest publicly available human iPSC bank collected from individuals with diseases including autism, neurodevelopmental, eye, heart, and lung disorders
New England Research Institutes (NERI)	U01 HL098188 Heart Disease Genetic Study	Collection of human samples used for study of congenital heart disease
EMMES Corporation & National Eye Institute (NEI)	Age-Related Eye Disease Study (AREDS)	Human samples used to identify novel factors relevant to the pathogenesis, progression and response to treatment of a variety of retinal conditions
Jackson Laboratories	JAX Collection	Collection of mouse embryos, sperm, and tissues, as well as human tumor samples
Yerkes National Primate Research Center	Yerkes Primate Resource	Collection of viable cell cultures and DNA samples from primate *Pan troglodytes*
Integrated Primate Biomaterials and Information Resource	IPBIR Repository	Collection of cell lines and DNA samples of known provenance with accompanying demographic, geographic and behavioral information for a variety of primate species

NIA

- Collections
  - Adipose Stromal Cells
  - Ames Dwarf Mouse Collection
  - Mouse Embryonic Stem Cells
  - Premature Aging Disorders
  - Alzheimer Disease
  - GRC Collection (BLSA)
  - Longevity Collection
  - Adolescent Study of Obesity
  - **Animal Models of Aging**
  - Differentiated Cell Types
  - Apparently Healthy Controls
  - Specially Characterized Fibroblasts
- More
  - Diseases
  - Genes
  - DNA Plates and Panels
- About
  - Mission and Organization
  - How to Submit
- How to Order
  - Ordering
  - mESC - How to Order
- Additional Resources
  - mESC Protocols
- FAQ

Animal Models of Aging

Animal Models of Aging

- **Order: Carnivora**
  - Genus: Ailurus (panda)
  - Genus: Canis
    - Species: familiaris (dog)
- **Order: Cetartiodactyla**
  - Genus: Bos (cow)
  - Genus: Muntiacus (muntjak)
  - Genus: Sus (pig)
- **Order: Lagomorpha**
  - Genus: Oryctolagus (rabbit)
- **Order Perissodactyla**
  - Genus: Equus
    - Species: caballus (horse)
- **Order: Primates**
  - Genus: Callicebus (paraguayan titi)
  - Genus: Erythrocebus (patas monkey)
  - Genus: Lagothrix (Woolly monkey)
  - Genus: Lemur
    - Species: catta (ring-tailed lemur)
  - Genus: Macaca
    - Species: mulatta (rhesus)
    - Species: nemestrina (pigtailed macaque)
    - Species: nigra (Celebes ape)
  - Genus: Papio
  - Genus: Saguinus
    - Species: fuscicollis (white-lipped tamarin)
    - Species: labiatus (red-bellied tamarin)
  - Genus: Saimiri (squirrel monkey)
- **Order: Rodentia**
  - Genus: Cricetulus (Chinese hamster)
  - Genus: Mesocricetus (golden Syrian hamster)
  - Genus: Mus (mouse)
  - Genus: Mus (Ames mouse)
  - Genus: Peromyscus (California mouse)
  - Genus: Peromyscus (deer mouse)
  - Genus: Peromyscus (oldfield mouse)
  - Genus: Peromyscus (white-footed mouse)
  - Genus: Rattus (rat)
- **Order: Testudines**
  - Genus: Geochelone (Galapagos tortoise)

Other Important Partnerships

- National Cancer Institute (NCI, NIH)
- National Science Foundation (NSF)
- Centers for Disease Control and Prevention (CDC)
- US Immunodeficiency Network (USIDNET)
- CHDI Foundation (Huntington's Disease Foundation)
- American Diabetes Foundation
- Autism Research Resource
- Wistar Institute

Sample Types in the Repository

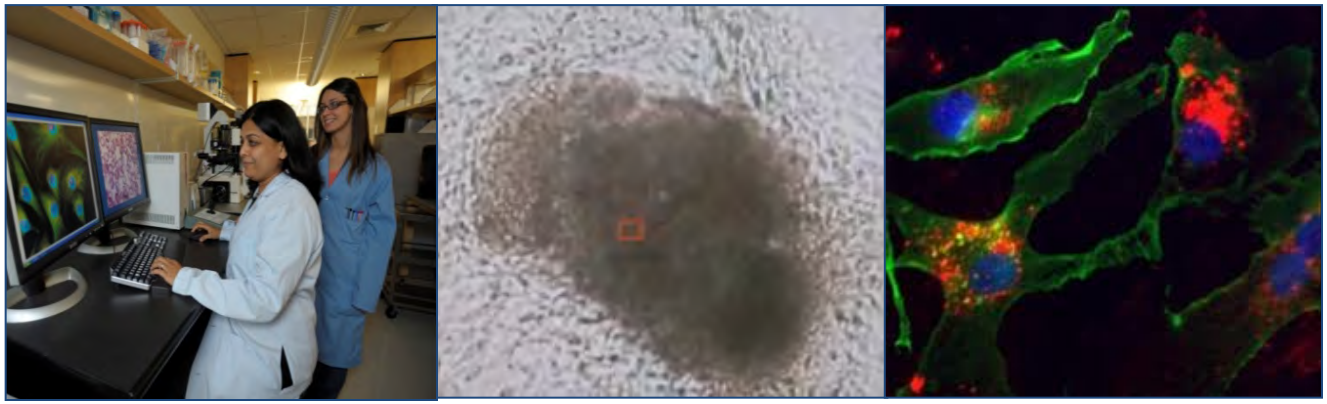
- Genomic DNA
- Total RNA
- Saliva
- Frozen whole blood
- Plasma
- Serum
- Urine
- Cerebrospinal fluid
- Normal & tumor tissue
- Histology slides
- Human transformed B-cells [LCLs]
- Cultured human fibroblasts
- Human PBMCs
- Tumor cell lines
- Animal cell lines: cow, dog, hamster
- Mouse/human hybridoma cell lines that produce antibodies
- Polyclonal & monoclonal antibodies
- Purified proteins
- Plasmid “mini-genes” [Huntington's Disease Molecular Tool Box]
- Mouse ESCs and human iPSCs

Biobanking Logistics Capabilities

- Enhanced capabilities in inventory management
  - Inventory management of main and fail-safe storage locations with real-time RIMS database
- State-of-the-art freezers and cryogenic tanks equipped with alarms, monitors and sensors
  - -80°C ultra-low freezers
  - Liquid nitrogen (LN2) and liquid nitrogen vapor (VN2) cryogenic tanks
  - In-house and remote storage facilities equipped with limited-access and break-in security system

Stem Cell and Induced Pluripotent Stem Cell Lines

- Largest collection of iPSCs for reprogramming, expansion and cryopreservation
- Comprehensive quality control
- Characterization of iPSC lines
  - Embryoid body formation, Surface antigen testing, PluriTest (gene expression), G-banding karyotype analysis, Genotyping microarrays
- Disease-in-a-dish research
- Growth and characterization of mouse embryonic stem cells (mESCs)



The CIRM Stem Cell Repository

- California Institute for Regenerative Medicine (CIRM) was established to accelerate stem cell research in California by the establishment of a $3 billion fund approved by taxpayers.

- This initiative will establish a state-of-the-art iPSC bank in California that will be broadly accessible by researchers worldwide.

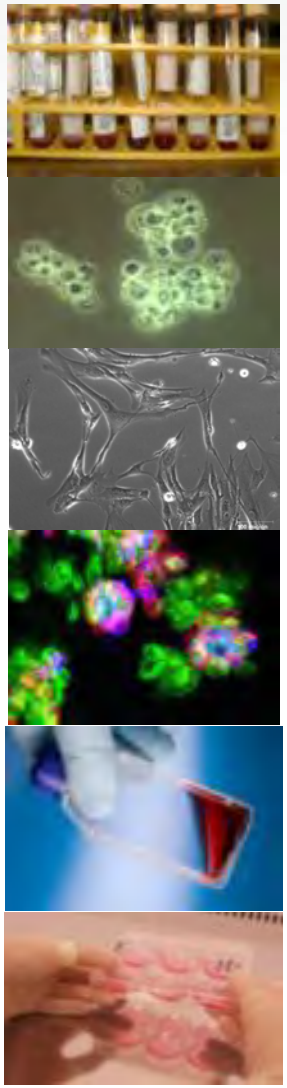
- Tissue samples collected from patients suffering from Alzheimer's disease, autism spectrum disorders, liver diseases, cardiovascular diseases, neurodevelopmental disabilities such as cerebral palsy and infantile epilepsy, diseases of the eye, or respiratory diseases.

- Coriell collaborating with Cellular Dynamics International (CDI) to create and distribute 3 induced pluripotent stem cell (iPSC) lines for each of 3,000 healthy and diseased donors.

- Coriell Institute ~$10 million by CIRM to set up and bank the iPSC lines.

Coriell Research Services

Coriell Cell Culturing Services



- Isolation and cryopreservation of peripheral blood mononuclear cells (PBMC)
- EBV-transformation of PBMCs for establishing immortalized lymphoblastoid lines
- Establishment of primary fibroblasts and differentiated cell lines from biopsy
- Growth of cell lines for isolation of DNA and RNA
- Expansion of cell lines for distribution, stock maintenance, molecular and cytogenetic analysis

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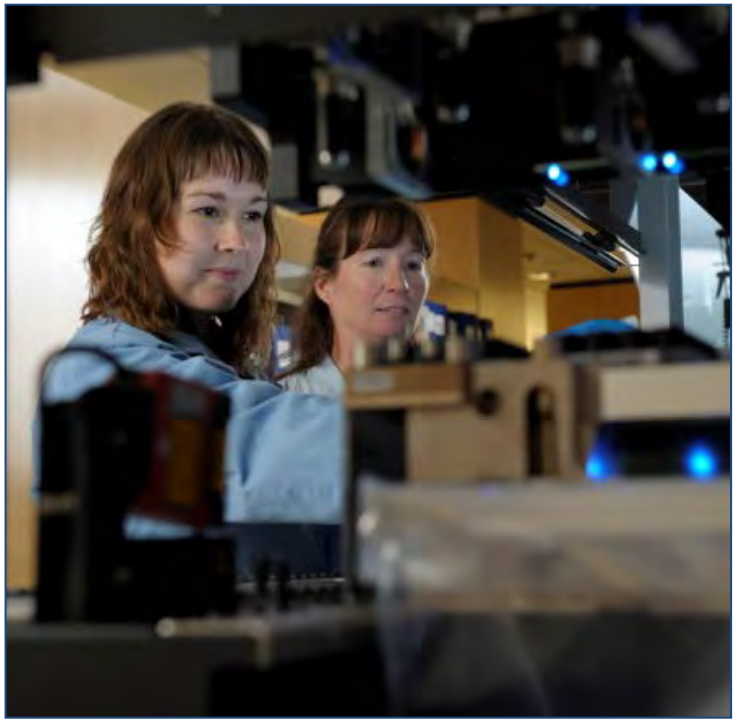
Coriell Molecular Biology Services

- Genomic DNA, total RNA and miRNA isolation from blood, cells and tissues
- Large scale propagation of transfection-ready plasmid DNA
- Genotyping with highly polymorphic microsatellite markers using multiplex fluorescent PCR; pedigree verification and cell line authentication
- Hemoglobin testing of biofluids (e.g., plasma, serum)
- Mycoplasma testing by Real Time PCR assay



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Coriell Genotyping and Microarray Center

- One of the largest microarray facilities in the nation offering genome-wide genotyping
- High-throughput platforms
- CLIA certified in 50 states
- Affymetrix SNP 6.0 and DMET Plus® arrays
- mRNA and miRNA expression profiling
- Copy number variation analysis
- Custom genotyping panels
- Instrument capacity for 2000-3000 samples per month
- Ion Torrent Targeted DNA/RNA Sequencing

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Sequencing Options for Multiple Organisms

Affymetrix offers over 6 dozen types of arrays:

- Human U133 array
- Mouse 430 array
- Rat array
- *Drosophila* gene array
- *E. coli* array
- *P. aeruginosa* array

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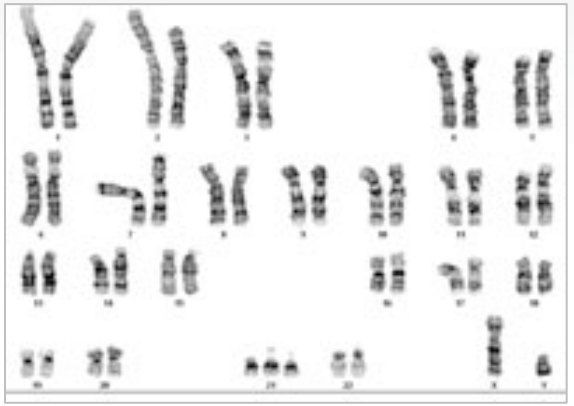
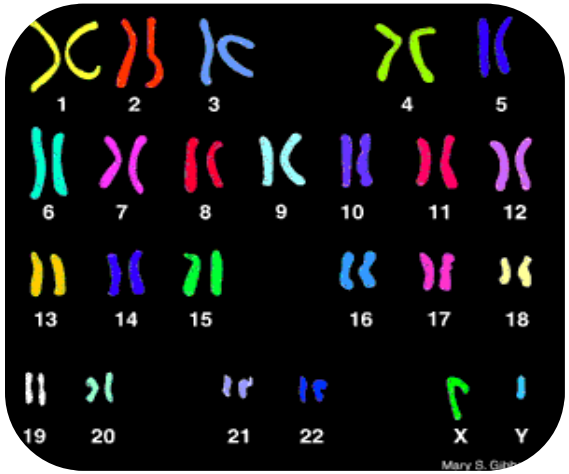
Cytogenetics

- G-banded karyotype analysis
- Analysis of copy number variation and loss of heterozygosity using Affymetrix Genome-Wide Human SNP Array 6.0
- FISH analysis including probe design, labeling, purification and validation
- Application of cytogenetic and cytogenomic services for stem cell studies and transgenics quality control





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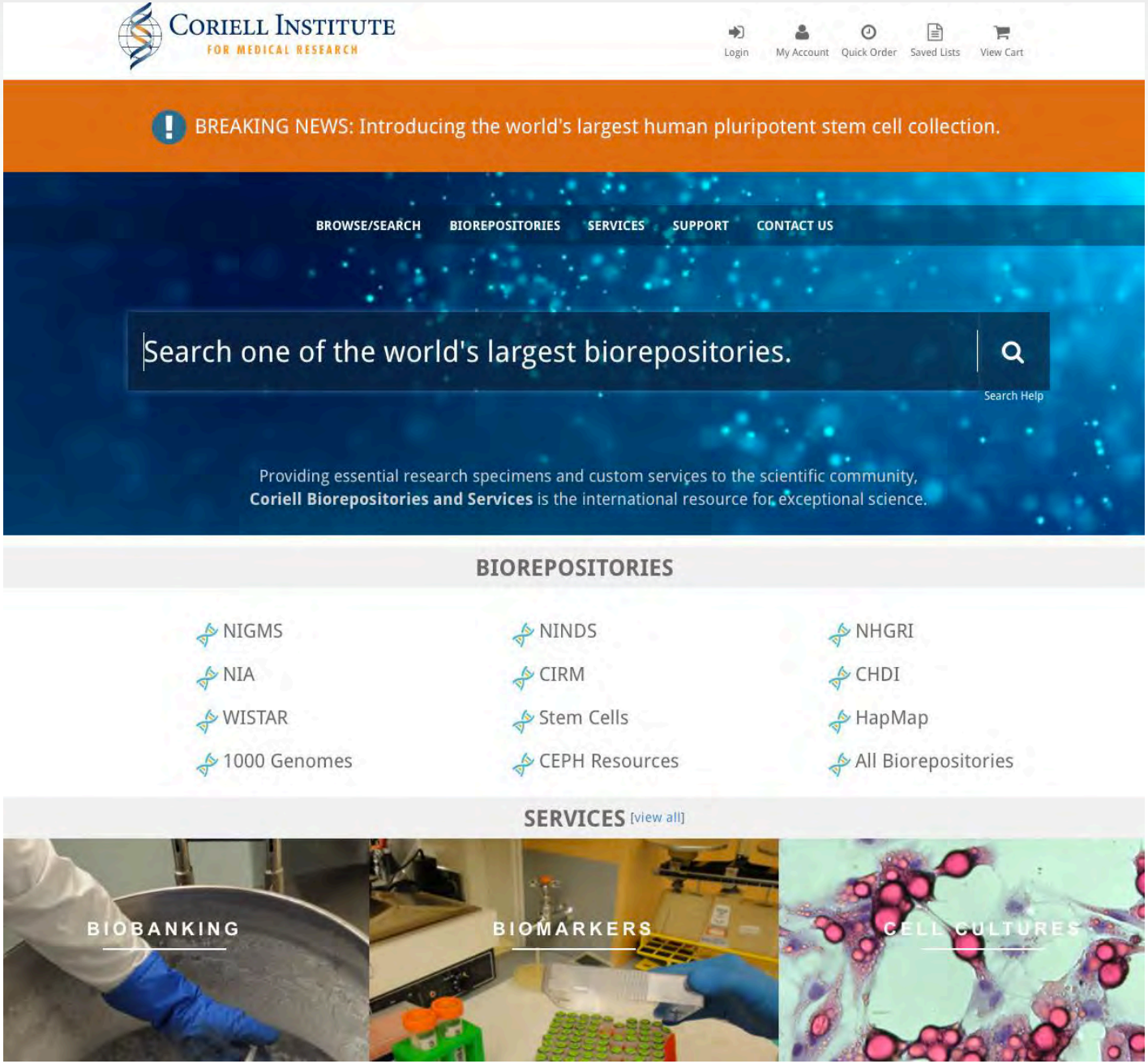
How to Order Samples

Access Coriell's online catalog → https://catalog.coriell.org



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Instructions for Ordering Samples

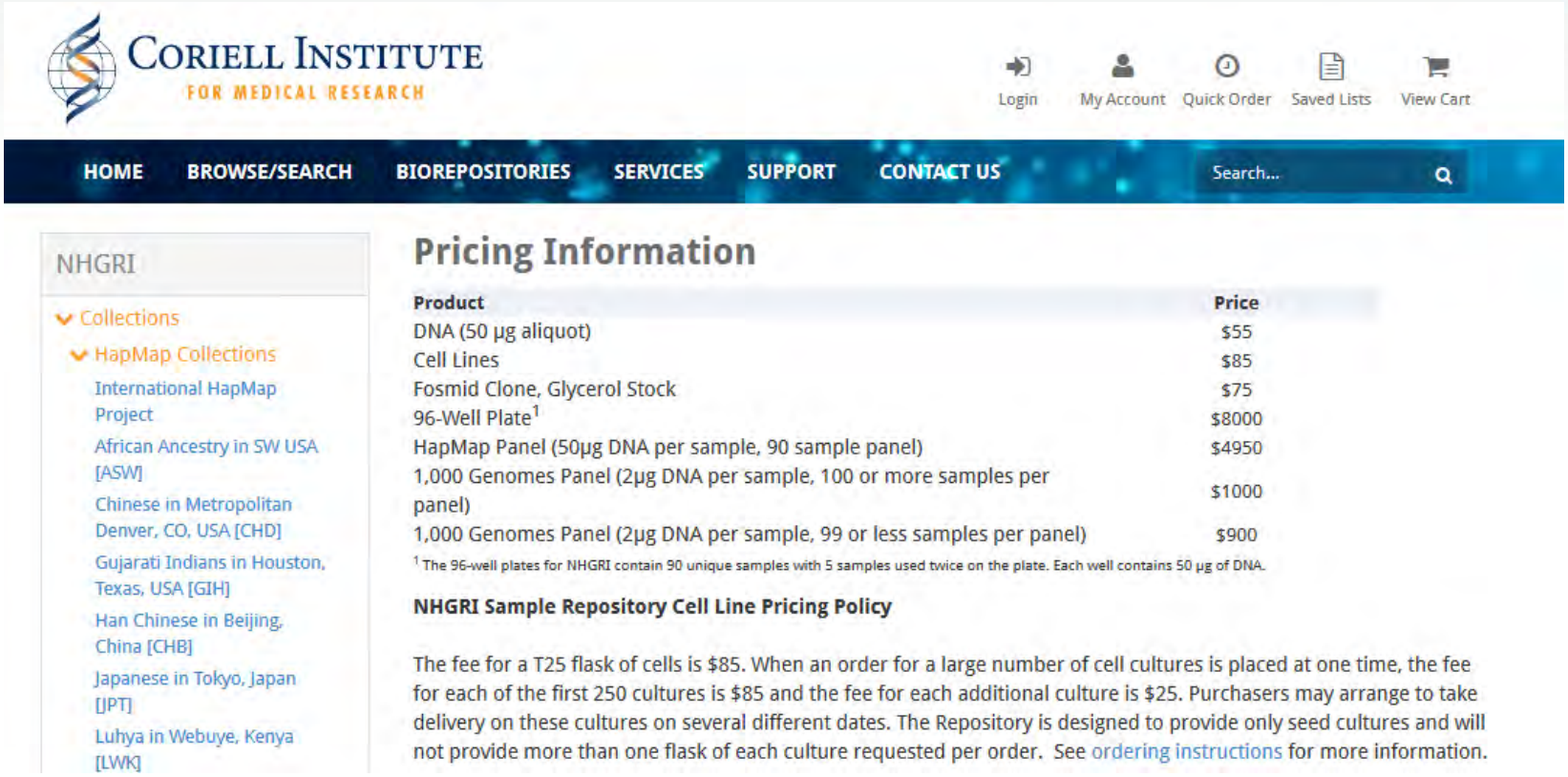
- Determine which repository contains sample(s) of interest
- Click on sample ID to retrieve information about sample
- Fill out required paperwork: 1) Statement of Research Intent and 2) Material Transfer Agreement (MTA)/Assurance Form
- Place order through Coriell's online catalog, or contact Customer Service Department by phone:
  - Call (800) 752-3805 (USA)
  - Call +1 (856) 757-4848 (World)
  - Email customerservice@coriell.org

Sample Pricing

Sample Pricing

- Sample prices vary, depending on which repository sample is ordered from
- Click on sample ID to retrieve information about sample price
- Product types include:
  - Live or frozen cell cultures
  - Cell pellets
  - DNA aliquots
  - DNA panels
  - DNA plates

Price by Contract



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FOR MEDICAL RESEARCH

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HOME | BROWSE/SEARCH | BIOREPOSITORIES | SERVICES | SUPPORT | CONTACT US | Search...

NHGRI

- Collections
  - HapMap Collections
    - International HapMap Project
    - African Ancestry in SW USA [ASW]
    - Chinese in Metropolitan Denver, CO, USA [CHD]
    - Gujarati Indians in Houston, Texas, USA [GIH]
    - Han Chinese in Beijing, China [CHB]
    - Japanese in Tokyo, Japan [JPT]
    - Luhya in Webuye, Kenya [LWK]

Pricing Information

Product	Price
DNA (50 µg aliquot)	$55
Cell Lines	$85
Fosmid Clone, Glycerol Stock	$75
96-Well Plate[1]	$8000
HapMap Panel (50µg DNA per sample, 90 sample panel)	$4950
1,000 Genomes Panel (2µg DNA per sample, 100 or more samples per panel)	$1000
1,000 Genomes Panel (2µg DNA per sample, 99 or less samples per panel)	$900

[1] The 96-well plates for NHGRI contain 90 unique samples with 5 samples used twice on the plate. Each well contains 50 µg of DNA.

NHGRI Sample Repository Cell Line Pricing Policy

The fee for a T25 flask of cells is $85. When an order for a large number of cell cultures is placed at one time, the fee for each of the first 250 cultures is $85 and the fee for each additional culture is $25. Purchasers may arrange to take delivery on these cultures on several different dates. The Repository is designed to provide only seed cultures and will not provide more than one flask of each culture requested per order. See ordering instructions for more information.

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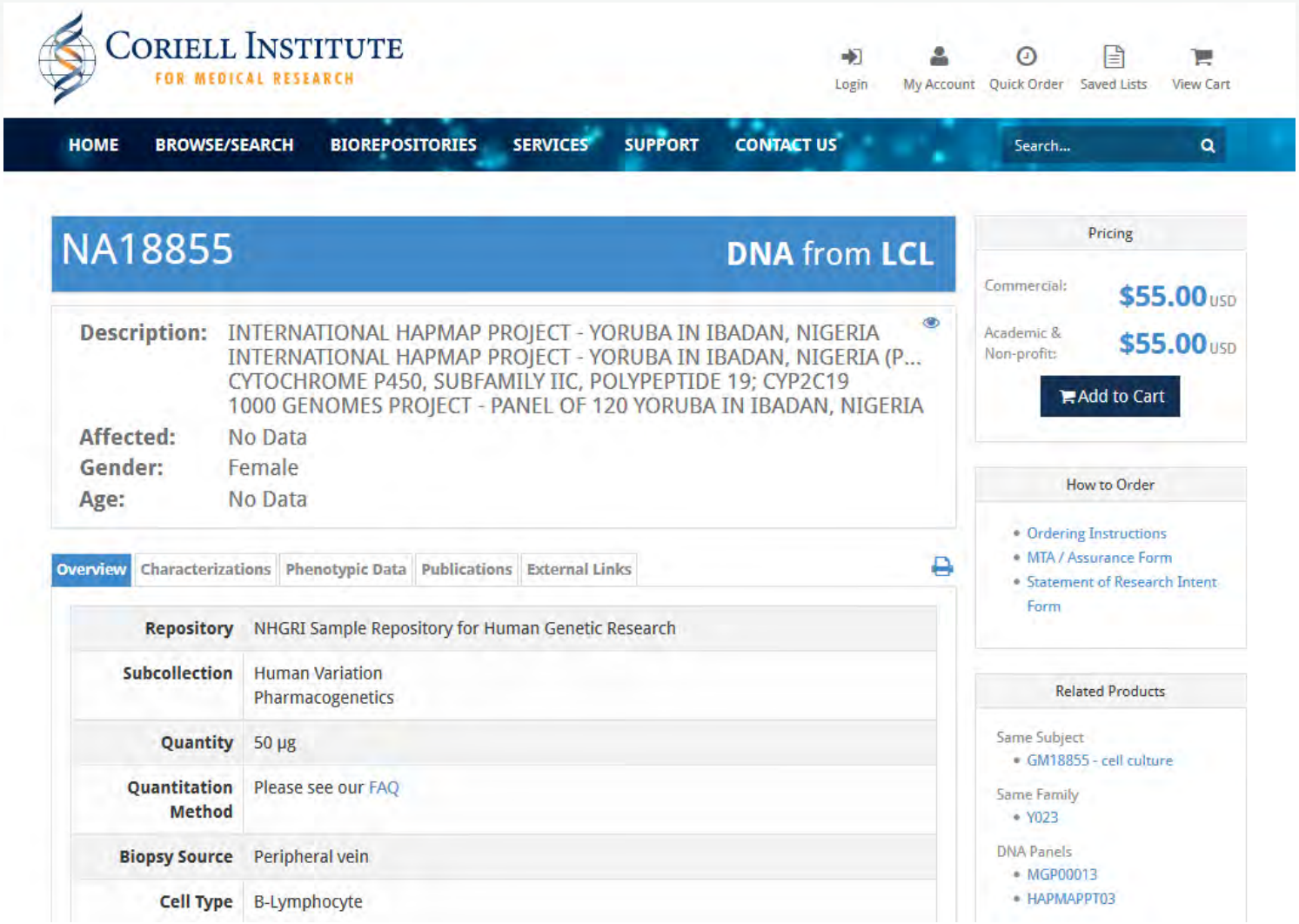
Detailed Sample Information



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Thank You!

Uses for These Resources

- Identify similar or complimentary models
- Identify refinements
- Find collaborators
- Find subject matter experts
- Reduce use of live animals
- Reduce costs for research

Questions

Now: Type your questions into the chat box on GoToMeeting dashboard.

Later: email your questions to OLAWDPE@mail.nih.gov

Question 1

Does OLAW expect investigators to use NIH RePORTER and the Coriell's resources exclusively?

Answer 1

No, while NIH produces RePORTER and supports many of the Coriell's repositories, use of these resources is optional. As we learned from Brian and Alissa, these resources offer valuable information that may be useful in identifying collaborations, finding subject matter expertise, and obtaining samples as an alternative to the use of live animals.

RePORTER and Coriell are examples of the types of resources that may be used to implement the 3Rs.There are many other ways to find this type of information including literature searches as we highlighted in the OLAW June 2014 webinar.

Question 2

Would searching NIH RePORTER or Federal RePORTER qualify as an alternative search to meet Animal Welfare Act Regulation requirements?

Answer 2

Maybe. NIH and Federal RePORTER provide valuable information about research models and NIH RePORTER includes publications resulting from NIH funded research. Their usefulness in finding alternatives to painful or distressful procedures has not been evaluated.

It's an interesting idea that may be best explored with the help of your institution's librarian. Ultimately, it is the effectiveness of the search that matters.

Question 3

What other features do RePORT and RePORTER offer that might be of interest to investigators?

Answer 3

RePORT offers:

- NIH Awards by Location and Organization tool, which can simplify the process of finding NIH-supported projects in particular states, at particular organizations, or in particular types of institutions(like schools of veterinary medicine).
- NIH Data Book, which summarizes trends in research funding and success rates
- NIH Funding Facts, quick access to statistics from the NIH Data Book and annual reports produced by the NIH OER's Division of Information Services.

Question 4

Must an investigator have an NIH grant to procure samples from Coriell?

Answer 4

No. Coriell's Biorepositories are available for purchase regardless of funding arrangements. While procurement requirements may vary across collections, investigators must at minimum complete and submit a Material Transfer Agreement form and a Statement of Research Intent.

Question 5

Must IACUCs review requests when investigators obtain items from Coriell?

Answer 5

No. IACUC review is not required when animal tissue or other materials are obtained from repositories like Coriell.

Some institutions may have animal biosecurity policies that require review of biological products to be administered to animals or that are classified as biohazards.

National Institutes of Health

Office of Laboratory Animal Welfare

OLAW Online Seminar

Q & A with OLAW

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