



Survey Report on PharmacoGenetics/Genomics Research Supported by NIH

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**NIGMS, NIH, DHHS
SACGHS Meeting 6/16/2005**

SEARCH OF NIH AWARDS - CRISP

found >400 on pharmacogenetics/genomics

- 40 K career awards
- 24 T institutional training awards
- 5 F fellowship awards
- 70 U cooperative agreements
- 40 P centers and program projects
- 2 C facilities centers
- 197 R research grants
- 15 R small business awards
- 8 R conference grants

MULTIPLE INSTITUTES AT NIH

Many categorical institutes are...

- **Conducting large scale clinical trials**
- **Identifying genetic contributions to complex diseases**
- **Banking DNA samples for subsequent analysis**
- **Generating “tools” for researchers**
- **Promoting data sharing activities**

NIMH

- **Sequenced Treatment Alternatives to Relieve Depression (STAR*D) trial**
- **Tissue repositories for human genetics studies**

NICHD

- **Pediatric Pharmacology Research Units (PPRU) Network**

MULTIPLE INSTITUTES AT NIH

NHLBI

- Participates in Pharmacogenetics Research Network (PGRN)
- Programs in Genomics Applications (PGAs) for tools
- Sequencing services available to researchers (RSnG)
- Some individual research grants

NCI

- Multiple large adult and child clinical trials networks
- Cooperative Human Tissue Network (CHTN)
- Some individual research grants

NIDDK

- Several clinical trials groups in diabetes
- Drug-induced liver injury network (DILIN)

MULTIPLE INSTITUTES AT NIH

NIA

- Clinical trial for APO-E allele/Alzheimers

NHGRI

- HapMap – SNP blocks as a tool to study genetic factors contributing to variation in responses to drugs, vaccines, and environment
- NIH Roadmap Molecular Libraries Initiative

NIDA

- Tissue and cell repositories
- Services available to researchers (Microarray Consortium through Neuroscience Blueprint)

NIGMS

- Individual awards study drug metabolizing enzymes
- Leads Pharmacogenetics Research Network (PGRN)

NIH* PHARMACOGENETICS RESEARCH NETWORK 2001-04

*NIGMS, NHLBI, NCI, NHGRI, NIEHS & NLM

Cardiovascular & Pulmonary

Statins & ACE Inhibitors

R. Krauss

Lawrence Berkeley National Lab

Autonomic Pharmacodynamics

D. O'Connor

University of Calif., San Diego

Arrhythmias & Therapies

D. Roden

Vanderbilt University

Asthma & Asthma Meds

S. Weiss

Brigham & Womens Hosp.

Pharmacogenomics & Minority Populations

M. Rothstein

University of Louisville

Drug Pathways, Metabolism and Transporters

Membrane Transporters

K. Giacomini, I. Herskowitz

University of Calif., San Francisco

Depression in Mexican-Americans

J. Licinio

University of California, Los Angeles

Drug Metabolism Pathways Network

H. McLeod

Washington University

Phase II Drug Metabolizing Enzymes

R. Weinshilboum

Mayo Foundation

PharmGKB

R. Altman

Stanford University

Cancer

SERMS - Tamoxifen

D. Flockhart

Indiana University

Anti-Cancer Agents

M. Ratain, M. Relling

University of Chicago,
St. Jude Childrens

Local Informatics

P. Nadkarni

Yale University

PharmGKB

The Pharmacogenetics and Pharmacogenomics Knowledge Base

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The PharmGKB is an integrated resource about how variation in human genes leads to variation in our response to drugs. [more ...](#)

Browse:

- [Genes with PharmGKB Primary Data](#)
- [Genes with Genotype Data](#)
- [Genes with Phenotype Data](#)
- [Drugs with PharmGKB Primary Data](#)
- [Diseases with PharmGKB Primary Data](#)
- [All Pathways](#)

[more ...](#)

Search PharmGKB: ?

Go

e.g. a gene ("ABCB1"), drug ("irinotecan") or disease ("neoplasm")

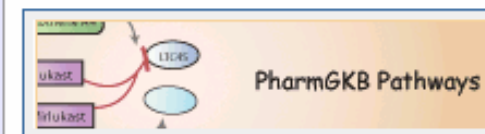
Simple Queries

get customized results for top 5 most common questions

Sample query [The dataset for gene ABCB1 or drug irinotecan](#)

News

- New Feature: [Simple Queries](#)
- New Feature: Named Alleles (e.g. [CYP2C9*2](#))
- New Feature: New Drug Page (e.g. [methotrexate](#))
- [Biomedical Beat](#): A monthly digest of research news from NIGMS.
- [PharmGKB Newsletter](#)
- [NLP Projects](#)
- [Genotype Excel Templates](#)



Internet

PHARMACOGENETICS RESEARCH NETWORK

Conducting cutting edge research

- papers published in basic and clinical areas

Establishing a knowledge base, **PharmGKB**

- datasets for genotypes, phenotypes
- pathway displays for drug clearance, mechanisms
- open for community submissions

Learning as a network

- policies: for consent language, IP not encumbering
- principles: study design, statistical analysis, etc.

Sharing their perspective

- “white papers” in process should have impact
- donated sample sets to the Coriell Repository
- testify to FDA: labels changing for drugs on market

FREE PUBLICATIONS FROM NIGMS

- [Medicines for YOU](#)
Educational brochure that explains what pharmacogenetics is all about. En español: [Medicamentos para USTED.](#)
- [Genes & Populations](#)
Educational brochure that explains why genetics researchers sometimes study identified populations to find links between genes and diseases. En español: [Genes y Poblaciones.](#)