

Functional Genomics Resources from the DRSC and TRiP

- Jonathan Zirin – new TRiP technologies
- Stephanie Mohr – cell screens as part of an in vivo project
- Claire Yanhui Hu – suite of bioinformatics tools

Drosophila RNAi Screening Center

Founded in 2003 to support RNAi cell screens by the community

- >200 screen projects (85 full-genome screens)
- Researchers from across the US and overseas
- PIs at all career stages and from small colleges, private and public universities, medical schools, research institutes
- Screens interrogating signal transduction, host-pathogen interactions, cell and organelle morphology, and many other cell biological topics

FlyRNAi database and LIMS supports reagent design, reagent production, and data management

Additional online resources for screen data analysis and data integration

Over the years: added new dsRNA libraries, new reagents, new online tools

DRSC/TRiP Functional Genomics Resources

ORDER/SIGNUP

[Home](#) [Technologies](#) [Online Tools](#) [Protocols](#) [Reagents](#) [Equipment](#) [Publications](#)[About](#)

TECHNOLOGIES

[in vivo fly RNAi \(TRiP\)](#)[in vivo CRISPR \(TRiP\)](#)[Cell-based RNAi \(DRSC\)](#)[Cell-based CRISPR \(DRSC\)](#)[Cell-based assays](#)[Disease-related studies in the fly model](#)

HOME / TECHNOLOGIES /

Cell-based RNAi (DRSC)

[Quick link to Gene Lookup \(search screen data\)](#)
[Quick link to UP-TORR \(view cell & in vivo reagents\)](#)

Drosophila cell-based RNAi screens have been supported by our facility since 2003. We provide reagents targeting individual genes, focused libraries, genome-scale libraries, and other resources for [on-site screening at our facility](#) or off-site screening at your institution.

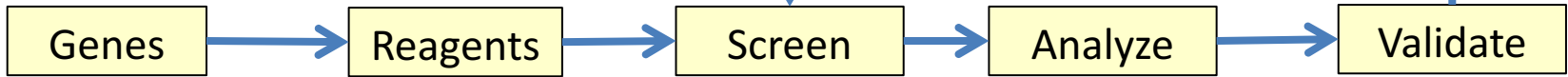
- view our [genome-wide and focused libraries](#) (reagents)
- learn about [making RNAi reagents](#) or [fly cell culture](#) (protocols)
- mine data from past screens at [ScreenSummary](#)

See links below to relevant online tools, reagents, protocols, publications, and more.



NIGMS: R01GM067761

An integrated platform of Bioinformatics tools



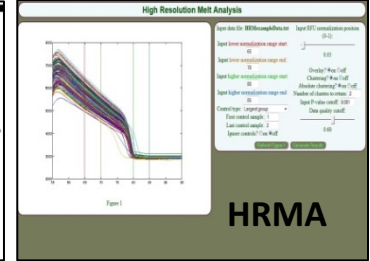
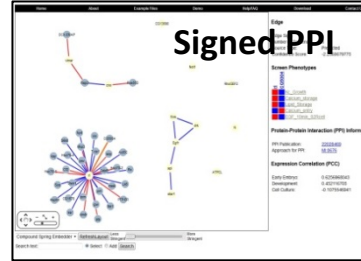
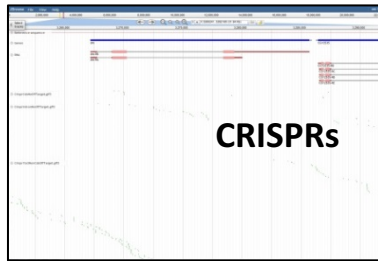
DIOPT
Drosophila Integrative Orthology Prediction Tool

UP-TORR
UP-TORR - Updated Targets of RNAi Reagents

COMPLEAT
protein Complex Enrichment Analysis Tool

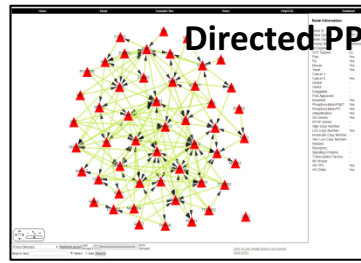
FlyPrimerBank
Search FlyPrimerBank for PCR Primers in *D. melanogaster*

DIOPT-DIST
DIOPT-DIST: DIOPT Diseases and Traits

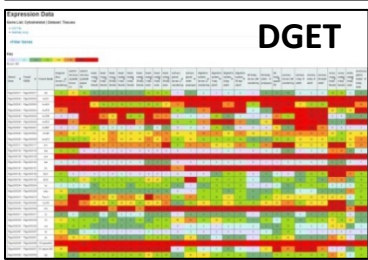


GLAD
Gene List Annotation for Drosophila

RSVP
RNAi Stock Validation & Phenotypes



Online GESS



gRNA LIMS

FlyRNAi LIMS

MIST
Molecular Interaction Search Tool

DRSC/TRIP Functional Genomics Resources

Transgenic RNAi Project (TRiP)

Founded in 2008 to build a genome-scale collection for in vivo RNAi

- Has built >15,000 fly stocks
- Fly stocks are immediately shared with the BDSC
- In 2017 alone, BDSC sent >74,000 TRiP stocks to >1300 labs

Developed the RNAi Stock Validation and Phenotype (RSVP) database to track results with a given Gas4 + UAS-RNAi fly stock combination

Recently, switched production pipeline to sgRNA fly stock production

- CRISPR knockout (CRISPR-KO)
- CRISPR activation (CRISPR-OE)
- Continued policy: community nominations, fly stocks shared with BDSC

DRSC/TRiP Functional Genomics Resources

ORDER/SIGNUP

- [Home](#) **[Technologies](#)** [Online Tools](#) [Protocols](#) [Reagents](#) [Equipment](#) [Publications](#)
- [About](#)

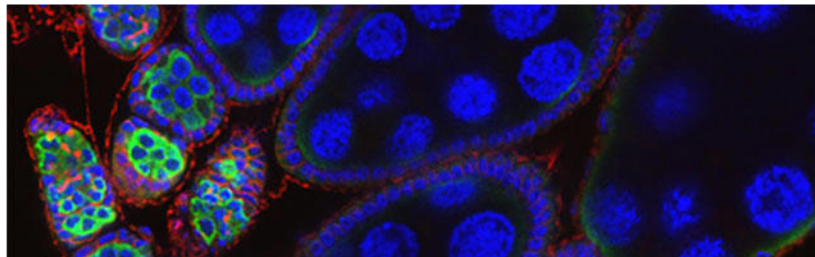
TECHNOLOGIES

[in vivo fly RNAi \(TRiP\)](#)[in vivo CRISPR \(TRiP\)](#)[Cell-based RNAi \(DRSC\)](#)[Cell-based CRISPR \(DRSC\)](#)[Cell-based assays](#)[Disease-related studies in the fly model](#)[HOME / TECHNOLOGIES /](#)[in vivo fly RNAi \(TRiP\)](#)[Quick link to GeneLookup \(search DRSC/TRiP reagents\)](#)[Quick link to UP-TORR \(batch search fly RNAi reagents\)](#)[Quick link to RSVP \(search in vivo fly RNAi data\)](#)[Quick link to TRiP fly stock batch query](#)

Since 2008, the Transgenic RNAi Project (TRiP) has generated transgenic RNAi fly stocks based on our optimized approach that are made immediately and openly available to the community through the [Bloomington Drosophila Stock Center](#) (BDSC).

- learn about [TRiP RNAi fly stocks](#) (reagents)
- learn about [the TRiP approach](#) (protocols)
- search for TRiP fly stocks using [UP-TORR](#)
- view and contribute fly stock validation and phenotype data at [RSVP](#)

See links below to relevant online tools, reagents, protocols, publications, and more.



NIGMS: R01GM084947
ORIP: R24OD021997

Transgenic RNAi Project (TRiP)

RNAi lines: 13,261

gRNA lines: 1,311

Toolbox RNAi: 23

Toolbox sgRNA: 55

Number of TRiP stocks distributed in 2017 by Bloomington: 74,050

Number of TRiP stocks distributed up to date by Bloomington: 513,050

Functional Genomics Resources from the DRSC and TRiP

- Jonathan Zirin – new TRiP technologies
- Stephanie Mohr – cell screens as part of an in vivo project
- Claire Yanhui Hu – suite of bioinformatics tools