

# DANIORERIO MULTIPLEX GPI NETWORK

Last update: 1 July 2014

## Reference and Acknowledgments

This README file accompanies the dataset representing the multiplex genetic and protein interactions network of the Danio Rerio (zebrafish), a tropical freshwater fish. If you use this dataset in your work either for analysis or for visualization, you should acknowledge/cite the following papers:

“Biogrid: a general repository for interaction datasets”  
C. Stark, B.-J. Breitkreutz, T. Reguly, L. Boucher, A. Breitkreutz, and M. Tyers.  
Nucleic Acids Research 2006 34 (1) D535–D539

“MuxViz: A Tool for Multilayer Analysis and Visualization of Networks”  
Manlio De Domenico, Mason A. Porter, and Alex Arenas  
Journal of Complex Networks, 2014 (DOI: 10.1093/comnet/cnu038)

that can be found at the following URLs:

[http://nar.oxfordjournals.org/content/34/suppl\\_1/D535.abstract](http://nar.oxfordjournals.org/content/34/suppl_1/D535.abstract)

<http://comnet.oxfordjournals.org/content/early/2014/10/12/comnet.cnu038.full>

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Visit

PLEXMATH: <http://www.plexmath.eu/>

ALEPHSYS: <http://deim.urv.cat/~alephsys/>

for further details.

## Description of the dataset

We consider different types of genetic interactions for organisms in the Biological General Repository for Interaction Datasets (BioGRID, [thebiogrid.org](http://thebiogrid.org)), a public database that archives and disseminates genetic and protein interaction data from humans and model organisms. BioGRID currently includes more than 720,000 interactions that have been curated from both high-throughput data sets and individual focused studies using over 41,000 publications in the primary literature. We use BioGRID 3.2.108 (updated 1 Jan 2014).

The present folder concerns danio rerio.

The multiplex network used in the paper makes use of the following layers:

1. Association
2. Suppressive genetic interaction defined by inequality
3. Direct interaction
4. Additive genetic interaction defined by inequality
5. Physical association

There are 155 nodes, labelled with integer ID between 1 and 155, and 188 connections. The multiplex is directed and unweighted, stored as edges list in the file

```
danioRerio_genetic_multiplex.edges
```

with format

```
layerID nodeID nodeID weight
```

(Note: weight is 1 for all edges)

The IDs of all layers are stored in

```
danioRerio_genetic_layers.txt
```

The IDs of nodes, together with their name can be found in the file

```
danioRerio_genetic_nodes.txt
```

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## Contacts

If you find any error in the dataset or you have questions, please contact

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