

VIENNA DROSOPHILA RESOURCE CENTER

WHAT WE DO

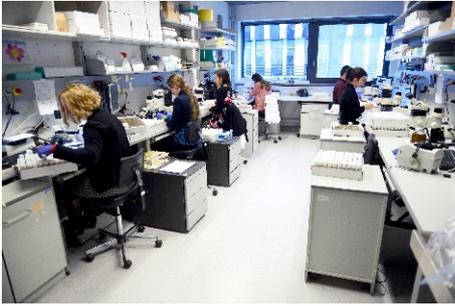
The Vienna Drosophila Resource Center (VDRC) is a professionally organized bioresource center of international significance that aims to promote scientific discoveries in *Drosophila melanogaster*. We primarily maintain unique transgenic *Drosophila* stocks and DNA resources and distribute them both locally and worldwide. We also acquire, create, and develop new resources, according to emerging new technologies and the needs of the local and international *Drosophila* research community.

Why the fly?

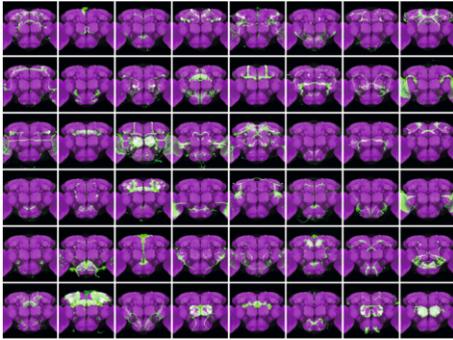
For over a century, the fruit fly has played a key role in unravelling the secrets of biological processes and human physiology and has contributed to 6 Nobel Prizes. The understanding of fundamental areas of biology such as regulation of gene expression, signal transduction, patterning and morphogenesis, development, ageing, immunity, stem cells, evolution, neural circuits and behaviour have all benefitted from *Drosophila* research. Also, around 75 % of known human disease genes have a recognisable match in fruit flies, making *Drosophila* a simple but powerful system for the study of human diseases, such as heart disease, Alzheimer's, autism, diabetes and cancers of all types.

Identifying factors involved in fundamental biological processes

With the largest collection of *Drosophila* RNAi lines worldwide, we enable researchers to carry out small scale or genome-wide knockdown assays to investigate gene function in a quick and easy manner. Stocks can be shipped to the recipient's lab or we can offer on-site screening. Many groups, including several from the Vienna BioCenter, took advantage of this screening opportunity and were able to identify genes involved in fundamental and evolutionarily conserved biological processes, eg. controlling the balance between stem cell self-renewal and differentiation, the factors and molecular processes that protect the genome against the deleterious influence of transposons, factors involved in pain perception and many, many more.



Fly stock maintenance



GAL4 expression in *Drosophila* brains



Stock storage room

SERVICES AND METHODOLOGIES

We can ship fly stocks and plasmid DNA to any *Drosophila* researcher worldwide who has obtained a VDRC log-in.

- **Fly stock distribution**

We maintain over 31,000 transgenic fly stocks for worldwide distribution, including the world's largest collection of *Drosophila* RNAi lines.

- **Plasmid DNA distribution**

The VDRC is also a repository for plasmid DNAs which are of use in *Drosophila melanogaster* research.

- **Stock keeping**

The VDRC is open to donations of highly used *Drosophila* stocks for integration into its community stock center collection for distribution to all fly researchers. In addition, we offer a private stock keeping service.

- **Fly food**

The VDRC Fly Food Kitchen (FFK) provides fly groups in the Vienna region with media required for maintaining live *Drosophila* stocks.

RESOURCES

The VDRC is the only *Drosophila* stock center in Europe and has a unique set of transgenic lines used by the international *Drosophila* research community.

- **RNAi libraries**

The VDRC has the largest collection of *Drosophila* RNAi lines worldwide. The genome-wide resource enables large-scale genetic screens and loss-of-function experiments in essentially any tissue or cell at any stage in the life of the organism.

- **Enhancer-GAL4 driver library**

GAL4 lines are one part of the binary GAL4-UAS system. Our Vienna Tiles (VT) enhancer Gal4 lines are typically used in *Drosophila* experiments as 'drivers' to restrict the expression of a UAS line (e.g., UAS-RNAi) to a specific subset of cells or developmental time-point.

- **Tagged FlyFos TransgeneOme (fTRG) library**

This library consists of transgenic flies for analysis of gene function and protein localization.

- **Other Resources**

Our additional smaller collections currently include mutant alleles, tagged constructs, reporters and CRISPR/Cas9 plasmids.

- **Plasmids**

The VDRC also acts as a repository for plasmids that are useful for *Drosophila* research.

CONTACT AND LOCATION

**Vienna Drosophila Resource Center
Vienna BioCenter Core Facilities (VBCF)**

Dr. Bohr-Gasse 3, 1030 Vienna, Austria

<https://www.viennabiocenter.org/facilities/vienna-drosophila-resource-center/>

<https://www.vdrc.at>

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