

P[acman]-generated fruit fly gene 'library': A new research tool

May 24 2009

(May 24, 2009) -- Using a specially adapted tool called P[acman], a collaboration of researchers led by Baylor College of Medicine has established a library of clones that cover most of the genome of *Drosophila melanogaster* (fruit fly) and should speed the pace of genetic research.

In a report in the current online issue of the journal [Nature Methods](#), Dr. Hugo Bellen, a professor of molecular and [human genetics](#) at BCM and a Howard Hughes Medical Institute investigator, and his colleagues describe the new libraries.

P[acman]- developed by Dr. Koen Venken in Bellen's laboratory- allows scientists to study large chunks of [DNA](#) in living flies. The vector - officially P/phiC31 artificial chromosome for manipulation - combines different technologies: a specially designed bacterial artificial chromosome (BAC) that allows maintenance of large pieces of DNA in bacteria, recombineering that allows the manipulation of large pieces of DNA in bacteria, and the ability to insert the genomic DNA into the genome of the fly at a specific site using phiC31-mediated transgenesis.

Venken adapted the P[acman] vector to create genomic libraries, so that a researcher can choose a gene and find the corresponding clones in the library that cover that gene. Their collaborators at Lawrence Berkeley National Laboratory, Drs. Roger Hoskins and Joseph Carlson, played a key role in the design, construction, and annotation of the libraries.

"You can insert a single copy of a gene and rescue a mutation, or do a structure/function analysis of the gene," Bellen said. "If you don't know where the gene is expressed, you can tag it, put it back and locate where it is expressed."

The library is available at <http://pacmanfly.org/>.

More information: www.nature.com/nmeth/index.html

Source: Baylor College of Medicine ([news](#) : [web](#))

Citation: P[acman]-generated fruit fly gene 'library': A new research tool (2009, May 24)
retrieved 19 April 2024 from
<https://phys.org/news/2009-05-pacman-generated-fruit-gene-library-tool.html>

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