National Institute of Genetics
KOICHI KAWAKAMI LAB

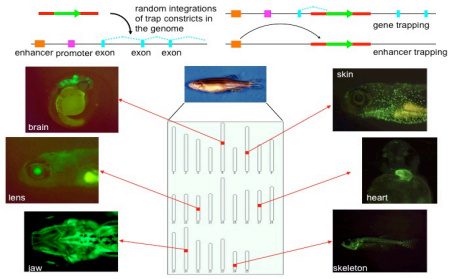
zTrap Zebrafish Gene Trap and Enhancer Trap Database

Summary

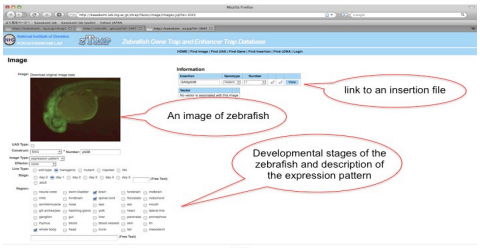
Zebrafish (*Danio rerio*) is an excellent model animal to study vertebrate development, genetics and genomics. We developed novel gene trap and enhancer trap methods in zebrafish by using the *Tol2* transposable element. By using these methods, we have created a large number of transgenic fish that express GFP or a modified version of the yeast transcription activator Gal4 in specific cells, tissues and organs. These fish are useful to study organogenesis and roles of those cells during morphogenesis. We then analyzed transposon integration sites in these fish. It is expected that genes expressed in such specific cells and organs and involved in important biological processes will be discovered near the integration sites.

To make the best use of these transgenic fish lines, we developed a web-based database, *z*Trap, that integrates the expression patterns of GFP and Gal4 and the genomic information of the transposon integration sites. These fish are maintained in our lab as livestocks or as frozen sperms. Researchers can find expression patterns of their interests and transposon insertions located close to genes or loci of their interests. Thus, *z*Trap is a useful tool to study development, genetics and genomics of the model vertebrate zebrafish.

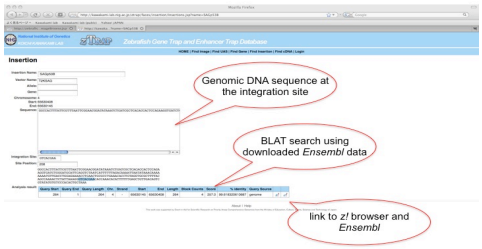
Gene trap and enhancer trap methods in zebrafish



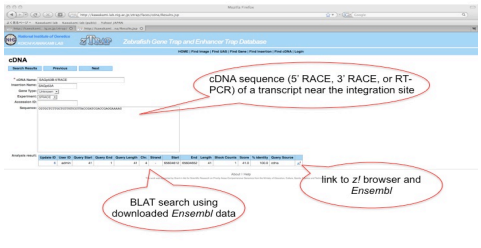
Data1: Image file



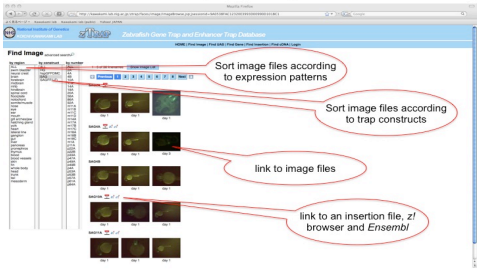
Data2: Insertion file



Data3: cDNA file



Utility1: Find image



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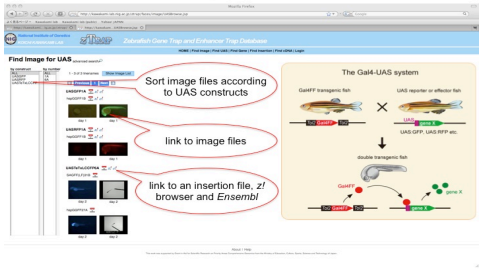
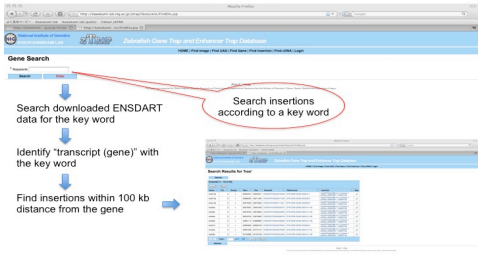
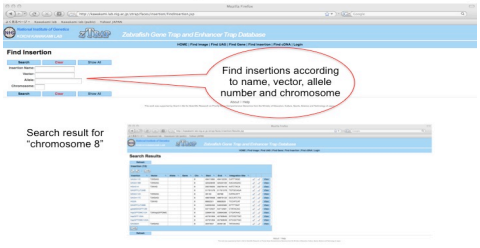


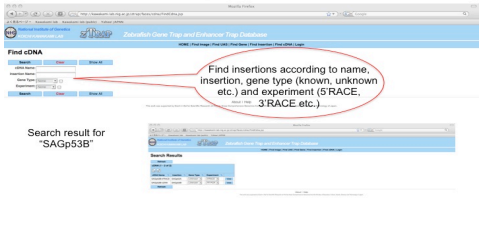
Utility3: Find gene



Utility4: Find insertion



Utility5: Find cDNA



z! genome browser

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