

Genotyping: Zebrafish (*Danio rerio*)

Charles River Laboratories Genetic Testing Services offers a variety of nucleic acid-based assays for genotyping common model organisms such as mice, rats, and zebrafish.

The zebrafish (*Danio rerio*) is a small tropical fish which reproduces rapidly, produces optically clear embryos, and is amenable to both forward and reverse genetic analyses. For these reasons, the zebrafish has emerged as a powerful model organism for elucidating vertebrate developmental pathways. Due to the high degree of conservation with other vertebrates, the zebrafish is becoming an important tool for biomedical research.

Available Zebrafish Genotyping Assays Include:

Zygoty and Carrier Status Determination

We can determine zygoty or carrier status of your point mutants or transgenic zebrafish lines. Our scientific staff will develop a PCR, Quantitative PCR (QPCR), or SNP assay as appropriate for your model. You will receive detailed protocol information should you wish to perform the assays in your own laboratory or provide them to collaborators. We offer rapid turnaround time and customized results reporting in a variety of formats.

Copy Number Determination

We can determine transgene copy number using our TaqMan®-based QPCR technique. Differences in transgene copy number may have significant phenotypic effects in transgenic lines.

Expression Testing

With our quantitative RT-PCR technique, we can analyze gene expression in a variety of tissues. This is useful for determining transgene expression, confirming the results of microarray analysis for specific genes of interest, and monitoring gene knockdown experiments.

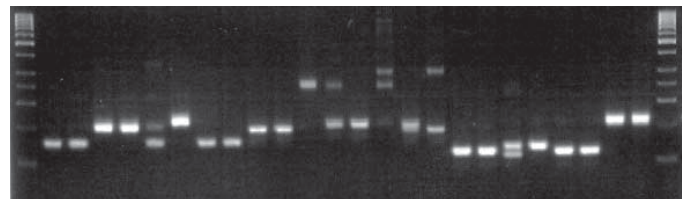
Microsatellite Analysis

Our panel of microsatellite markers spans the zebrafish genome at an interval of 15-20 cM with markers on all 25 chromosomes. The markers are highly polymorphic between common wild-type lines. This panel of markers can be used for such applications as accelerated backcrossing from one genetic background to another, background strain characterization to determine which

line you are using, and periodic genetic quality control to make sure the background of your lines has not changed over time. The microsatellite marker panel can also be used for mapping of transgene insertion sites and mutations. Our geneticists are available to customize the service to your specific needs.

For more information, please call 1.877.CRIVER.1 or email askcrl@crl.com.

Chromosome 19				Chromosome 20				Chromosome 21			
Z9384				Z20046				Z10508			
TU	AB	TL	WIK	TU	AB	TL	WIK	TU	AB	TL	WIK



Microsatellite analysis of TU, AB, TL, and WIK wild-type lines


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