

Single-platform microarray analysis

Biomarker discovery

Toxicogenomic solutions

PURL2	19Q13.2	POL
TOMM	19Q13.2	TRA
APC E	19Q13.2	APC
	19Q13.2	APC
	19Q13.2	AP
	19Q13.2	APC
CLPTM	19Q13.3	CL
GENB	19Q13.3	GE
HPT1	19Q13.2	HS



CrossGen

ILLUMINATING SPECIES DIFFERENCES

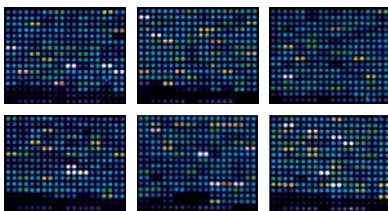


illuminating species differences

Does your genomic research involve species other than *H. sapiens* and *M. musculus*?

Are you struggling to understand the effects of novel therapeutics on your chosen experimental model because microarray technology has not caught up yet?

After several years in development, CrossGen now offers a novel bioinformatics tool, **CG+**, that allows the use of existing Affymetrix GeneChip® arrays for the analysis of gene expression in species whose genomes are currently uncharacterised.

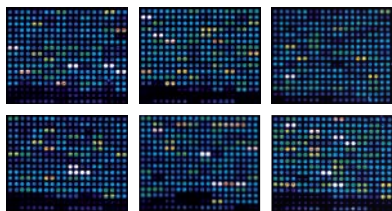


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our technology

CrossGen's **CG+** technology is based on providing a species-specific set of library files which interface seamlessly with the Affymetrix GeneChip® system. As **CG+** is purely a software solution, for those with access to the Affymetrix system there is no requirement for further major investment in capital equipment or time. The **CG+** technology is used to construct new library files for the unsequenced animal species using specific probes selected from existing Affymetrix GeneChip® arrays.

The cross-species library files, developed with **CG+** technology, enable robust data analysis due to the elimination of poor signals as a result of genetic variability. The new library files retain the specificity of GeneChip® technology, while increasing sensitivity (see **figure 1**).



Figure 1. Cross-species data of equine samples generated with equine **CG+** library file (*U133Plus_equine*), human GeneChip® library file (*U133Plus2.0*) and Affymetrix GCOS software. High hybridisation signal of the **CG+** library file is due to improved sensitivity of the human GeneChip® array for equine cross-species analysis.

Single-platform microarray analysis

Cross-platform analysis of microarray data can be problematic as a source of data variability. This is necessitated by the variety of microarray technologies in the market. The **CG+** technology eliminates cross-platform analysis by enabling microarray analysis on one platform, namely Affymetrix GeneChip® arrays.

Biomarker discovery

Most pre-clinical drug assessment processes takes place in laboratory animals, however, the lack of complete sequence for some animals limits microarrays as a tool for the discovery of surrogate biomarkers. Comparative genomics approaches, enabled by the **CG+** technology, facilitate biomarker discovery in laboratory and companion animals.

Toxicogenomic solutions

Current toxicogenomic technologies are limited to a few well characterised species with complete sequence information. The **CG+** technology provides a cost effective method of selecting the most appropriate animal model for pre-clinical toxicogenomic assessment of drug candidates.

If you would like to learn more about CrossGen and **CG+** technology, and how it could assist your genomic research in species other than man and mouse, do not hesitate to contact a member of the CrossGen team.

CrossGen can safely evaluate gene expression in species currently not catered for by current microarray technology.

In developing bespoke microarray analysis for rare species, the requirement for custom microarray manufacture is eliminated, thus reducing costs and shortening time to delivery of results.



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