

# Agilent Community Designs for Model Organism Exome Sequencing

Model organism exome sequencing is a powerful research tool for studying genetic alterations in response to disease, treatment, and environment. Agilent offers three model organism all-exon designs through the Agilent Community Design Program, at a fraction of the cost of large custom kits. These all exon designs were created in collaboration with researchers with deep expertise in the genetics of the respective model organism (Table 1).

## **SureSelect Community Design Mouse All Exon V2**

The SureSelect Community Design Mouse All Exon V2 design was created based on Genome Build mm10 in collaboration with a group led by Dr. Yoichi Gondo while working at Riken, Japan. This group later published a study using mouse exome sequencing with this design to better understand the molecular pathogenesis in leukemic relapse.<sup>1</sup>

## **SureSelect Community Design Rat All Exon**

The SureSelect Community Rat All Exon targets all rat exons based on genome build Rnor\_6.0 (RGSC, 2014). The design led by Julie Foley of the National Institute of Environmental Health Sciences (NIEHS) consisted of a team from NIEHS, Sciome, and Agilent Technologies. The design application was published in BMC Genomics in 2018 to study genetic changes in chemically induced rat tumor cell lines.<sup>2</sup>

## **SureSelect Community Design Canine All Exon V2**

The SureSelect Community Design Canine All Exon V2 was designed in collaboration with Wellcome Investigator Professor Elizabeth Murchison from the University of Cambridge, UK. Using exome sequencing, Professor Murchison's group was able to study the evolution and global expansion of a transmissible cancer lineage in dogs. This work by Professor Murchison's group was published in Science in August 2019.<sup>3</sup>

**Table 1.** The Genome Build and the size of the community designs for model organism exome sequencing.

Kit Name	Genome Build	Design Size (Mb, Mega bases)
SureSelect Community Design Mouse All Exon V2	mm10	48 Mb
SureSelect Community Design Rat All Exon	Rnor_6.0	71 Mb
SureSelect Community Canine All Exon V2	CanFam 3	43 Mb

The Agilent Community Design program offers NGS panels designed by or in collaboration with experts in various research fields. These Community Design panels are produced upon order placement and are ready to ship in as little as two weeks.

Agilent has not validated the performance of the panels in the Agilent Community Design program.

**Table 2.** Ordering information for the SureSelect Community Designs for model organism sequencing. These part numbers cover the capture probe libraries only. Library prep and target enrichment reagent kits must be purchased separately.

Part Number	Product Description
5191-6693	SureSelect XT Community Design Mouse All Exon V2, 16 rxn
5191-6694	SureSelect XT Community Design Mouse All Exon V2, 96 rxn
5191-6695	SureSelect XT Community Design Mouse All Exon v2, 96 rxn, Automation
5191-6696	SureSelect XT Community Design Rat All Exon, 16 rxn
5191-6697	SureSelect XT Community Design Rat All Exon, 96 rxn
5191-6698	SureSelect XT Community Design Rat All Exon, 96 rxn, Automation
5191-6699	SureSelect XT Community Design Canine All Exon v2, 16 rxn
5191-6700	SureSelect XT Community Design Canine All Exon v2, 96 rxn
5191-6701	SureSelect XT Community Design Canine All Exon v2, 96 rxn, Automation

## References

1. Kotani, S. *et al.* Molecular pathogenesis of disease progression in *MLL*-rearranged AML. *Leukemia* **2019**, *33*, 612–624
2. Foley, J. *et al.* Whole exome sequencing in the rat. *BMC Genomics* **2018**, *19*, article 487.
3. Baez-Ortega, A. *et al.* Somatic evolution and global expansion of an ancient transmissible cancer lineage. *Science* **2019** *365*, eaau9923.

For technical support, please contact [ngs.support@agilent.com](mailto:ngs.support@agilent.com)

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