Cell3™ Target Whole Exome

Whole Exome Enrichment

Highlights

Exome sequencing and nothing more
Our optimized exome covers 33 Mb of highly conserved protein-coding regions based on CCDS allowing you to gain deeper sequencing per sample or more samples per sequencing run when compared to other larger designs.

Validated for all your needs
Whatever your research needs we have validated our exome to ensure you will get robust results. Developed for, and validated on a broad range of sample types from cell free DNA (ctDNA and cffDNA) to gDNA, FF or FFPE DNA and from as little as 1 ng input it enables both oncology and prenatal applications.

Custom Exomes with a reduced cost, better uniformity and quicker delivery time
We realize your research might require extra content specific to your project. Our manufacturing method enables rapid, 4 week delivery of custom exome enrichment products, including NGS QC validation.

Highest confidence calling of ultra low frequency somatic or mosaic germline variants
If you are interested in low frequency mutation detection then our built in molecular tags and dual indexes support accurate and confident calling of ultra low frequency mutations down to 0.1% VAF.

To shear or not to shear? Flexible protocol includes enzymatic shearing of FFPE/FF or no shearing for cfDNA
Cell3™ Target Exome library prep options include enzymatic fragmentation (FFPE/FF and HMW gDNA), no shearing for ctDNA or cffDNA and optional Covaris shearing for gDNA.

Introduction

Exome sequencing is a powerful method which has quickly gained recognition with both translational research and clinical laboratories for discovering causative variants in hereditary and somatic driven diseases. By focusing on the coding regions of the genome, exome sequencing allows a higher throughput of samples at a lower cost and with superior coverage to whole genome sequencing and with a dramatically lower data storage and analysis burden. Exomes also allow a more unbiased view of the genome than a targeted panel and therefore can play an important role in translational research for variant discovery or within a clinical lab as a reflex test or more comprehensive test option.

Exome sequencing and nothing more

While it is important to constantly improve products, commercial companies have routinely iterated and versioned their exome offerings building upon previous builds. This has resulted in expanded exomes, some of which are now >70 Mb in size.

Our Cell3 Target Whole Exome focuses on what matters. By reducing its content to the core protein-coding regions referenced in CCDS, we are able to offer a much reduced 33 Mb exome with a 37 Mb sequencing footprint (99% ClinVar variants covered). This provides researchers and clinicians with a choice of much better coverage per sample or running more samples/run and saving on sequencing costs when compared to other exome products.

Robust performance

With a 33 Mb design size we can achieve >97% of targeted regions covered at ≥20x coverage with a 150x mean sequencing depth and requiring just 4.90 Gb of sequencing per sample.

Validated for all your needs

All Cell3 Target library kits have been validated on genomic DNA, fresh frozen (FF) DNA, formalin-fixed paraffin embedded (FFPE) DNA, and cell free DNA (ctDNA and cffDNA) so that from as little as 1 ng input regardless of your starting material, you can be assured of robust results.

Custom exomes with a reduced cost, better uniformity and quicker delivery time

Designed to be flexible, Cell3 Target library preparation kits allow you to add extra content specific to your project. Whether this is additional content or increased coverage of existing content, our Probe Design Tool makes this a simple and easy process to implement. Our manufacturing process enables customers to order and receive a completely custom exome within just 4 weeks. All our custom products are validated by NGS to ensure that uniformity of coverage meets our strict QC requirements.

Validated, quick and convenient workflow

The Cell3 Target technology enables enzymatic shearing of high molecular weight genomic DNA and FFPE/FF DNA samples as well as conventional End-repair / A-tailing for cell free DNA (ctDNA or cffDNA). The streamlined workflow with 8 sample pre-capture pooling for exomes reduces hands-on time and pipetting steps and takes less than 10 hours (from DNA sample to enriched library) with less than 2 hours hands-on time. It allows both manual or automated preparation of 1–96 samples at a time with 384 sample indexes available for even the highest throughput laboratory.

Robust low frequency variant detection for cancer exome sequencing

Cell3 Target library preparation kits have been optimized for low frequency mutation calling. With molecular identifiers and dual unique indexes you can ensure that data generated will be the cleanest possible and enable you to call confidently mutations down to 0.1% VAF.

Learn more

To learn more about the Cell3 Target Whole Exome and to download the protocols, application notes, and white papers please visit: www.nonacus.com

Ordering information

Product	Catalog No.	
Cell3 Target: Exome, 16 samples	C3317EX	(options A/B/C)
Cell3 Target: Exome, 96 samples	C3318EX	(options A/B/C)

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