



23rd Pair Lab
LIMITED

ONT AMPLICON KITS

NanoAmp™

Targeted amplification kits for high-resolution genomic analysis using Oxford Nanopore sequencing.

NanoAmp™ is a proprietary family of targeted amplification kits developed by 23rd Pair Lab for high-resolution genomic analysis. It combines optimized target amplification with long-read sequencing and provides a streamlined path from DNA to targeted amplification to sequencing to variant analysis.

LONGER
READS
DEEPER
INSIGHTS
BRIGHTER
POSSIBILITIES

Proprietary
targeted long-read
sequencing solutions.



CFTR GENE

NanoAmp™ CFTR

CFTR gene

Comprehensive CFTR analysis with long-read sequencing.



BTD GENE

NanoAmp™ BTD

BTD gene

Targeted BTD analysis designed for long-read sequencing.



M. TUBERCULOSIS

NanoAmp™ TB

M. tuberculosis

Targeted tuberculosis genomics. From amplification to resistance profiling.



F8 GENE

NanoAmp™ F8

F8 gene

Comprehensive F8 analysis for Hemophilia A research.



A STREAMLINED WORKFLOW

FROM SAMPLES TO ANSWERS



DNA
sample input



Targeted amplification
long-range PCR



Sequencing
Oxford Nanopore



Variant analysis
interpretation

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GENOMICS
FOR A CLEARER
TOMORROW



23rd Pair
Lab

CFTR GENE

NanoAmp™ CFTR

**Comprehensive CFTR analysis
with long-read sequencing.**

NanoAmp™ CFTR is a targeted amplification kit developed by 23rd Pair Lab for comprehensive analysis of the CFTR gene using Oxford Nanopore sequencing. The assay is designed around long-range amplification of the CFTR genomic region, enabling sequencing across coding and clinically relevant non-coding regions while retaining long-read information for variant phasing and genomic interpretation.

LONGER
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POSSIBILITIES

**Proprietary
targeted long-read
sequencing solution.**



Key Features

- Targeted amplification of the CFTR gene
- Long-range amplicon design
- Detection of SNVs and small indels
- Analysis of clinically relevant intronic regions
- Long-read variant phasing
- Compatible with Oxford Nanopore sequencing workflows
- Multiplex-ready workflow

ROBUST DESIGN.
BROAD INSIGHTS.



Applications

- Cystic fibrosis research
- CFTR variant characterization
- Molecular genetics research
- Variant phasing and haplotype analysis

ATGCTGAATC
GCTACGTTAG
TGAACCTGAC
CTGTAAGTCC

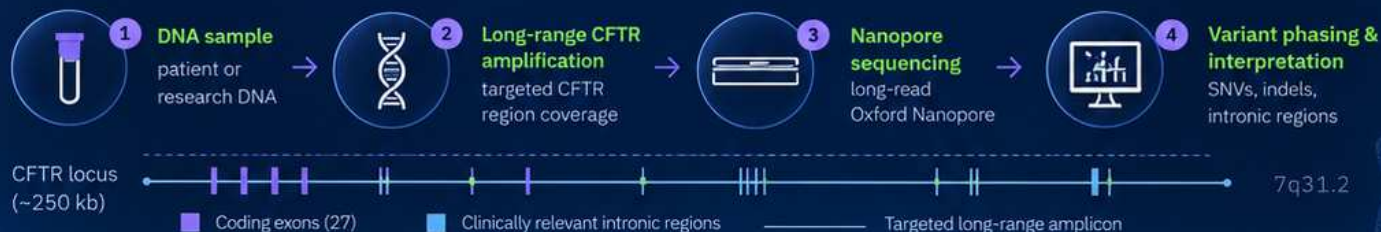


NanoAmp™ Advantage

Conventional short-read approaches can require multiple assays to resolve variants across complex genomic regions. NanoAmp™ CFTR uses targeted long-range amplification together with long-read sequencing to retain genomic context across substantially larger DNA molecules.

CFTR TARGETED WORKFLOW

FROM SAMPLE TO CFTR INSIGHT



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BTD GENE

NanoAmp™ BTD

Targeted BTD analysis designed for long-read sequencing.

NanoAmp™ BTD is a proprietary targeted amplification kit developed by 23rd Pair Lab for analysis of the BTD gene, supporting molecular research into biotinidase deficiency using Oxford Nanopore sequencing. The assay uses a multi-amplicon long-range amplification strategy designed to capture the BTD genomic region in sequencing-ready fragments while maintaining compatibility with long-read sequencing.

LONGER
READS
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POSSIBILITIES

Proprietary
targeted long-read
sequencing solution.



Key Features

- Targeted BTD gene amplification
- Long-range amplicon design
- Multiple amplicons optimized for gene coverage
- SNV and indel detection
- Long-read sequencing compatibility
- Multiplex-ready workflow
- Streamlined PCR-to-sequencing workflow

ROBUST DESIGN.
BROAD INSIGHTS.



Applications

- Biotinidase deficiency research
- BTD variant characterization
- Molecular genetics studies
- Targeted sequencing



NanoAmp™ Advantage

NanoAmp™ BTD has been developed around the principle that targeted amplification and long-read sequencing can provide a practical approach to resolving sequence variation across the BTD gene.



BTD ASSAY WORKFLOW



1. DNA sample
research sample input



2. Multi-amplicon
BTD PCR
amplicons optimized
for coverage



3. Long-read
sequencing
Oxford Nanopore
workflow



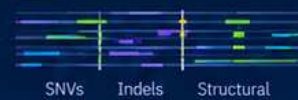
4. BTD variant
characterization
SNVs, indels, gene-level analysis



5' 3' BTD gene



Oxford Nanopore



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M. TUBERCULOSIS

NanoAmp™ TB

Targeted tuberculosis genomics.
From amplification to resistance profiling.

NanoAmp™ TB is a proprietary targeted amplification solution developed by 23rd Pair Lab for genomic analysis of *Mycobacterium tuberculosis* using Oxford Nanopore sequencing. The assay is designed to enrich clinically relevant genomic regions associated with drug resistance, strain characterization and molecular epidemiology, enabling focused sequencing without requiring whole-genome sequencing for every application.

LONGER
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Proprietary
targeted long-read
sequencing solution.



Key Features

- Targeted amplification of clinically relevant MTB regions
- Drug-resistance associated target analysis
- Long-read sequencing compatibility
- Multiplex amplification
- Native or PCR-based barcoding compatibility
- Rapid targeted sequencing workflow
- Scalable sample processing

FOCUSED TARGETS.
REAL-WORLD IMPACT.



Applications

- MTB drug-resistance research
- Resistance-associated mutation analysis
- Strain and lineage characterization
- Molecular epidemiology

ATGGGTGAAC
CGTACCTGAT
TTGAACGTCA
CCGTAGTCCT



NanoAmp™ Advantage

For applications where the research question is focused on known resistance-associated regions, targeted sequencing can concentrate sequencing capacity where it matters most. NanoAmp™ TB combines targeted amplification with Oxford Nanopore long-read sequencing to provide a focused workflow for MTB genomic analysis.

TB RESISTANCE PROFILING WORKFLOW

FOCUSED MTB ANALYSIS





**23rd Pair
Lab**

F8 GENE

NanoAmp™ F8

Comprehensive F8 analysis for Hemophilia A research.

NanoAmp™ F8 is a proprietary long-range targeted amplification kit developed by 23rd Pair Lab for comprehensive molecular analysis of the F8 gene using Oxford Nanopore sequencing. The F8 gene contains repetitive and structurally complex regions that can make comprehensive characterization challenging. NanoAmp™ F8 is designed around long-range amplification and long-read sequencing to preserve genomic context and facilitate characterization of sequence and structural variation.

LONGER
READS
DEEPER
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BRIGHTER
POSSIBILITIES

Proprietary
targeted long-read
sequencing solution.



Key Features

- Targeted F8 gene amplification
- Long-range PCR strategy
- Long-read sequencing compatibility
- SNV and indel analysis
- Structural variant characterization
- Intron 1 and intron 22 region analysis
- Long-range variant phasing
- Multiplex-ready workflow



ROBUST DESIGN.
BROAD INSIGHTS.



Applications

- Hemophilia A research
- F8 variant characterization
- Structural variant research
- Inversion analysis



NanoAmp™ Advantage

The size and genomic architecture of F8 create challenges for conventional short-read workflows. By preserving substantially longer DNA molecules through targeted amplification and sequencing, NanoAmp™ F8 is designed to provide genomic context that can be valuable when investigating complex F8 variants.

F8 LONG-RANGE ANALYSIS WORKFLOW

FROM DNA TO STRUCTURAL INSIGHT



1. DNA sample
research sample input



2. Long-range F8 PCR
challenging F8 regions
targeted



3. Nanopore sequencing
long-read Oxford Nanopore



4. Structural variant analysis
inversions, SNVs, indels, phasing



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DESIGNED BY 23RD PAIR LAB

NanoAmp™

**Targeted long-read sequencing,
focused into a practical workflow.**

NanoAmp™ assays are developed with a focus on target coverage, long-read compatibility, workflow simplicity and downstream variant analysis. Assay development is supported by published genomic research, experimental optimization and bioinformatics expertise, allowing each assay to be designed around the specific challenges of its target.

SCIENTIFIC BACKGROUND & REFERENCES

Published studies support the underlying assay approach and are not a validation of NanoAmp™ itself. References are available on request.

FROM TARGETED AMPLIFICATION TO ACTIONABLE GENOMIC DATA

NanoAmp™ brings long-read sequencing into a focused, practical workflow - from DNA sample input, through targeted amplification and Oxford Nanopore sequencing, to downstream variant analysis.



NANOAMP™ PLATFORM

- CFTR - targeted CFTR analysis
- BTDR - targeted BTDR analysis
- TB - resistance-focused MTB genomics
- F8 - complex F8 variant analysis

PROPRIETARY TARGETED LONG-READ SEQUENCING TECHNOLOGY

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