ExomeNext Can Shorten Your Patient’s Diagnostic Odyssey

ExomeNext leverages Ambry’s industry-best data analysis team and unique bioinformatics pipeline to help bring an end to the diagnostic odyssey experienced by many undiagnosed patients.

**EXCELLENT COVERAGE ACROSS THE ENTIRE GENOME**

- >97% of the exome covered with a minimum depth of coverage of 20X
- Detects gross deletions and duplications ≥ 5 exons

**EXOME VS. PANELS**

- >98% of point mutations found on panels also identified by ExomeNext.

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**LEADERS IN EXOME ANALYSIS**

First published criteria for assessing clinical validity of gene-disease relationships.

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**DIAGNOSE MORE PATIENTS**

Of the 20,000 genes, only ~5,000 have been characterized. Ambry is leading the efforts to define new gene-disease relationships for the community.

Provide an answer for 8% more patients with our validated candidate gene analysis.

**EXOMENEXT DIAGNOSTIC RATE = UP TO 38%**

- 30% characterized genes + 8% candidate (novel) genes

Diagnostic rates vary based on test ordered. Trio test options provide ~2x higher detection rates than proband only.

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**PATIENT FOR LIFE**

ExomeNext doesn’t end with the initial report. Ambry’s reanalysis program continues to look for new answers.

- Data sharing + Collaborations + Ongoing internal re-analysis + Physician requested re-analysis

6% overall reclassification
ExomeNext Adheres to Evidence-Based and Phenotype-Driven Analysis and Reporting Model

AMBRY’S OBJECTIVE SCORING SYSTEM ENSURES CONSISTENT DATA INTERPRETATION

Uncharacterized Gene-Disease Relationships

- NO EVIDENCE
- LIMITED

Characterized Gene-Disease Relationships

- MODERATE
- STRONG
- DEFINITIVE

Gene-Disease Scoring (Higher Score = Stronger Clinical Validity)

CLINICAL CORRELATION COMBINED WITH ACMG REPORTING CRITERIA PRODUCE ACCURATE RESULTS

CANDIDATE GENE REPORTING CRITERIA

- Candidate
- Suspected Candidate
- Insufficient Evidence
- Nonreported

CATEGORIZATION OF CHARACTERIZED GENETIC ETIOLOGIES

<table>
<thead>
<tr>
<th>Clinical Correlation</th>
<th>Alteration Classification</th>
<th>Overall Results Category</th>
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<tbody>
<tr>
<td>Positive</td>
<td>Pathogenic</td>
<td>POSITIVE</td>
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<tr>
<td></td>
<td>Likely Pathogenic</td>
<td>LIKELY PATHOGENIC</td>
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<tr>
<td></td>
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<td>UNCERTAIN</td>
</tr>
<tr>
<td>Likely Positive</td>
<td>Pathogenic</td>
<td>LIKELY POSITIVE</td>
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<tr>
<td></td>
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</table>

References

## Comprehensive Exome Testing Options for your Patient’s Needs

<table>
<thead>
<tr>
<th></th>
<th>EXOMENEXT®-PROBAND</th>
<th>EXOMENEXT®-DUO</th>
<th>EXOMENEXT®-TRIO</th>
<th>EXOMENEXT-RAPID®*</th>
<th>EXOMENEXT®-SELECT</th>
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<tbody>
<tr>
<td><strong>Turnaround time</strong></td>
<td>6-8 weeks</td>
<td>6-8 weeks</td>
<td>6-8 weeks</td>
<td>8 days**</td>
<td>2-4 weeks</td>
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<tr>
<td><strong>Number of genes analyzed</strong></td>
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<td>~4,500</td>
<td>Up to ~20,000</td>
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<td><strong>Secondary Findings Results</strong></td>
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</table>

*Only institutional and cash billing are accepted

**Verbal result provided within 8 days when an informative trio is provided; full report including mtDNA analysis, co-segregation analysis, and Sanger confirmation provided within 14 days.

## Simple Ordering Process

**ACCEPTED SPECIMENS:** Proband and Family Members: Blood, Saliva, DNA

### ORDER SUBMISSION
- a. Proband specimen
- b. Family Member specimens (Required for Duo/Trio orders)
- c. Clinic Notes
- d. Medical Necessity Form (insurance orders)

### AMBRY INTERNAL ORDER REVIEW
- a. Required documents & samples
- b. Test authorization (insurance orders)

### RESULTS AVAILABLE IN 6-8 WEEKS OR LESS*
- Results available through mail, fax, or online portal.

*Shorter TAT for ExomeNext-Rapid or ExomeNext-Select
Moving Science Forward: Finding Answers Program for Rare Disease Patients

Trio Exome Sequencing

Analysis of ~4,000 characterized (known) disease genes

Positive or likely positive finding = Report

Uncertain or negative finding

Analysis of ~16,000 uncharacterized (novel candidate) disease genes

Peer-reviewed and published vetting system

Reportable finding = Uncertain report

No reportable finding = Negative report

Potential reclassification

Proactive search for new disease genes

(Highest rate of reclassification)

Initiate clinician-driven data reanalysis

Participate in data sharing and collaborations

We only share gene and variant, no patient data

Perform additional lab studies

Implement continual technology upgrades

Test additional family members

(Family studies program)

About Ambry Genetics®

Ambry Genetics, as part of Konica Minolta Precision Medicine, excels at translating scientific research into clinically actionable test results based upon a deep understanding of the human genome and the biology behind genetic disease. Our unparalleled track record of discoveries over 20 years, and growing database that continues to expand in collaboration with academic, corporate and pharmaceutical partners, means we are first to market with innovative products and comprehensive analysis that enable clinicians to confidently inform patient health decisions. We care about what happens to real people, their families, and the people they love, and remain dedicated to providing them and their clinicians with deeper knowledge and fresh insights, so together they can make informed, potentially life-altering healthcare decisions. For more information, please visit ambrygen.com.