GENETIC RESULT: NEGATIVE - NO CLINICALLY SIGNIFICANT MUTATION IDENTIFIED

Note: “CLINICALLY SIGNIFICANT,” as defined in this report, is a genetic change that is associated with the potential to alter medical intervention.

ADDITIONAL FINDINGS: VARIANT(S) OF UNCERTAIN SIGNIFICANCE (VUS) IDENTIFIED

<table>
<thead>
<tr>
<th>GENE</th>
<th>VARIANT(S) OF UNCERTAIN SIGNIFICANCE</th>
<th>INTERPRETATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRCA1</td>
<td>c.5561T&gt;C (p.Leu1854Pro) (aka L1854P (5680T&gt;C))</td>
<td>UNCERTAIN CLINICAL SIGNIFICANCE</td>
</tr>
</tbody>
</table>

ADDITIONAL INFORMATION

Genes Analyzed: Unless otherwise noted sequencing and large rearrangement analyses were performed on the following genes:

- **BRCA1**, **BRCA2**

**Intended Use:** BRACAnalysis CDx® is an in vitro diagnostic device intended for the qualitative detection and classification of variants in the protein-coding regions and intron/exon boundaries of the **BRCA1** and **BRCA2** genes using genomic DNA obtained from whole blood specimens collected in EDTA. Single nucleotide variants and small insertions and deletions (indels) are identified by polymerase chain reaction (PCR) and Sanger sequencing. Large deletions and duplications in **BRCA1** and **BRCA2** are detected using multiplex PCR.

Results of the test are used as an aid in identifying patients who are or may become eligible for treatment with the targeted therapies listed in Table 1 in accordance with the most recently approved therapeutic product labeling.

**Table 1. Companion Diagnostic Indications**

<table>
<thead>
<tr>
<th>Tumor Type</th>
<th>Biomarker</th>
<th>Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Cancer</td>
<td>Deleterious or suspected deleterious mutations in <strong>BRCA1</strong> and <strong>BRCA2</strong> genes</td>
<td>Lynparza® (olaparib)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Talzenna® (talazoparib)</td>
</tr>
<tr>
<td>Ovarian Cancer</td>
<td>Deleterious or suspected deleterious mutations in <strong>BRCA1</strong> and <strong>BRCA2</strong> genes</td>
<td>Lynparza® (olaparib)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zejula® (niraparib)</td>
</tr>
<tr>
<td>Pancreatic Cancer</td>
<td>Deleterious or suspected deleterious mutations in <strong>BRCA1</strong> and <strong>BRCA2</strong> genes</td>
<td>Lynparza® (olaparib)</td>
</tr>
<tr>
<td>Prostate Cancer</td>
<td>Deleterious or suspected deleterious mutations in <strong>BRCA1</strong> and <strong>BRCA2</strong> genes</td>
<td>Lynparza® (olaparib)</td>
</tr>
</tbody>
</table>
This assay is for professional use only and is to be performed only at Myriad Genetic Laboratories, a single laboratory site located at 320 Wakara Way, Salt Lake City, UT 84108.

Contraindication:

- Patients who have undergone a previous allogeneic bone marrow transplant should not be tested with the BRACAnalysis CDx® test.

Limitations:

- Patients under consideration for testing who have been diagnosed with a hematologic malignancy, such as leukemia, could generate a positive (deleterious or suspected deleterious) result that is somatic, and not germline, due to chromosome instability.

- The classification and interpretation of all variants identified reflects the current state of scientific understanding at the time the result report is issued. In some instances, the classification and interpretation of variants may change as scientific information becomes available.

- Limitation: In Ovarian Cancer, ~70% of tumor BRCA1 or BRCA2 mutation positive patients are estimated to have a germline mutation while ~30% of patients are estimated to have a somatic mutation. In Prostate Cancer, ~50% of tumor BRCA1 or BRCA2 mutation positive patients are estimated to have a germline mutation while ~50% of patients are estimated to have a somatic mutation. The BRACAnalysis CDx test detects germline mutations only, not somatic mutations from patient’s blood sample. A negative result using the BRACAnalysis CDx blood test in ovarian and prostate cancer patients does not rule out the possibility of a somatic BRCA1 or BRCA2 mutation in tumor tissue from these patients.

For more detailed information, including a complete list of Contraindications, Limitations, Warnings and Precautions of the assay, please see page 2 of the BRACAnalysis CDx® Technical Information at: https://s3.amazonaws.com/myriad-web/BRACAnalysisCDxTS.pdf

The majority of deleterious or suspected deleterious mutations identified by Myriad in BRCA1 and BRCA2 are classified using objective criteria based on the type and genomic position of the mutations. Other deleterious or suspected deleterious mutations may be classified by other criteria that are based on available evidence. Myriad’s myVision® Variant Classification Program performs ongoing evaluations of variant classifications. In certain cases, the healthcare provider may be contacted for more clinical information or to arrange family testing to aid in variant classification. When new evidence about a variant is identified and determined to result in clinical significance and management changes, that information will automatically be made available to the healthcare provider through an amended report. If you have any questions or concerns about how the variant(s) in this result were classified, please contact Myriad.

Please contact Myriad at 1-800-469-7423 with any questions or feedback regarding services provided.

This Authorized Signature pertains to this laboratory report:

Benjamin B. Roa, PhD
Diplomate ABMGG
Laboratory Director

These test results should only be used in conjunction with the patient’s clinical history and any previous analysis of appropriate family members. It is strongly recommended that these test results be communicated to the patient in a setting that includes appropriate counseling. This test was developed and its performance characteristics determined by Myriad Genetic Laboratories. Myriad is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) as qualified to perform high complexity clinical laboratory testing.
The following information has not been reviewed and approved by the FDA. This assay identifies patients at risk for Hereditary Breast and Ovarian Cancer (HBOC) syndrome associated with deleterious or suspected deleterious BRCA1 or BRCA2 variants. Additional information is provided for hereditary cancer management purposes.

DETAILS ABOUT: BRCA1 c.5561T>C (p.Leu1854Pro): NM_007294.3; (aka: L1854P (5680T>C))

Functional Significance: Uncertain

The heterozygous germline BRCA1 variant c.5561T>C is predicted to result in the substitution of proline for leucine at amino acid position 1854 of the BRCA1 protein (p.Leu1854Pro). Though there is some evidence that this variant impairs BRCA1 function (Findlay et al. Nature 562: 217-222, 2018; Lee M et al, Cancer Res 70:4880-4890, 2010), it is not sufficient to conclude that it increases cancer risk.

Therefore, medical management for this individual should be based on the strength of this patient’s personal and family history of cancer.

ADDITIONAL TREATMENT INFORMATION

This assay is intended to be used as an aid in treatment decision making for the PARP inhibitors Lynparza® (olaparib), Zejula® (niraparib) and Talzenna® (talazoparib). Full prescription information for Lynparza® (olaparib) is available at: http://www.azpicentral.com/Lynparza/pi_lynparza.pdf. Full prescription information for Zejula® (niraparib) is available at: https://gskpro.com/content/dam/global/hcpportal/en_US/Prescribing_Information,Zejula Capsules/pdf/ZEJULA-CAPSULES-PIL.PDF. Full prescription information for Talzenna® (talazoparib) is available at: http://labeling.pfizer.com/ShowLabeling.aspx?id=11046. For more detailed information including Performance Characteristics, please find the complete Technical Information at: https://myriad.com/technical-specifications.

ASSOCIATED CANCER RISKS AND CLINICAL MANAGEMENT

If a clinically significant mutation is identified, please see the management tool associated with this report for a summary of cancer risk and professional society medical management guidelines that may be useful in developing a plan for this patient. Testing of other family members may assist in the interpretation of this patient’s test result.

DETAILS ABOUT NON-CLINICALLY SIGNIFICANT VARIANTS

All individuals carry DNA changes (i.e., variants), and most variants do not increase an individual’s risk of cancer or other diseases. When identified, variants of uncertain significance (VUS) are reported. Likely benign variants (Favor Polymorphisms) and benign variants (Polymorphisms) are not reported and available data indicate that these variants most likely do not cause increased cancer risk. Present evidence does not suggest that non-clinically significant variant findings be used to modify patient medical management beyond what is indicated by the personal and family history and any other clinically significant findings.

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The Myriad Genetics BRACAnalysis CDx® test was developed and performance characteristics were determined by Myriad Genetic Laboratories, Inc. and in compliance to In-Vitro Diagnostic Device Directive (98/79/EC) and is CE marked. Myriad is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) as qualified to perform high complexity clinical laboratory testing. Myriad is compliant with multiple international standards including, ISO13485:2016 and ISO 15189: 2012 as applicable.

Sex assigned at birth refers to the classification of an individual as male or female, often based on physical characteristics at birth.