

| Patient                        | Specimen Information           | Ordered By |
|--------------------------------|--------------------------------|------------|
| Name: Jessica Moore            | Primary Tumor Site: Lymphoma   |            |
| Date of Birth: 1941-07-06      | Specimen Site: Spleen          |            |
| Sex: Male                      | Specimen ID: 9720              |            |
| Case Number: 1636              | Specimen Collected: 2023-07-01 |            |
| Diagnosis: Follicular lymphoma | Test Initiated: 2023-07-04     |            |

| Biomarker | Method | Analyte   | Result              | Therapy association |  | Biomarker level |
|-----------|--------|-----------|---------------------|---------------------|--|-----------------|
| ER        | IHC    | protein   | Positive   3+, 100% | BENEFIT             | abemaciclib, palbociclib, ribociclib, endocrine, therapy, everolimus   | level 2         |
| PR        | IHC    | protein   | Positive   2+, 95%  | BENEFIT             | abemaciclib, palbociclib, ribociclib, endocrine therapy  | level 2         |
| TMB       | seq    | DNA tumor | 6 m/Mb Low          | BENEFIT             | pembrolizumab  | level 2         |
| ERBB2     | IHC    | Protien   | Negative   0        | LACK OF BENEFIT     | trastuzumab, ado-trastuzumab emtansine, pertuzumab, fam-trastuzumab deruxtecan-nxki, lapatinib, neratinib, tucatinib | level 1         |

Cancer-Type Relevant Biomarkers

| BioMarker              | Method | Analyte   | Result                |
|------------------------|--------|-----------|-----------------------|
| HBA2                   | Seq    | RNA-Tumor | Fusion not detected   |
| Mismatch repair status | IHC    | Protien   | Positive  3+, 76%     |
| PD-L1(SP142)           | IHC    | Protien   | Positive  1+, 25%     |
| CSF1R                  | Seq    | DNA-Tumor | Mutation not detected |
| JAK3                   | Seq    | DNA-Tumor | Stable                |

Genomic Signatures

| BioMarker                            | Method | Analyte   | Result  |
|--------------------------------------|--------|-----------|---|
| Microsatellite instability           | Seq    | DNA tumor | Equivocal                                       |
| Tumor mutational burden              | Seq    | DNA tumor | 6 mutations/Mb Low                              |
| Genomic loss of heterozygosity (LOH) | Seq    | DNA tumor | Low - 8% of tested genmoic segments exhibit LOH |

Genes Tested with Pathogenic Alterations or likely Pathogenic Alterations

| Gene  | Method | Analyte   | Variant Interpretation | Protien Alteration | Exon | DNA Alteration | Allele Frequency % |
|-------|--------|-----------|------------------------|--------------------|------|----------------|--------------------|
| EGFR  | Seq    | DNA tumor | Likely Pathogenic      | p.H1038R           | 6    | c.3113A>G      | 20.25              |
| NT5C2 | Seq    | DNA tumor | Likely Benign          | p.G503A            | 8    | c.1508G>C      | 11.15              |
| APC   | Seq    | DNA tumor | Benign                 | p.G388R            | 7    | c.1162G>A      | 21.7               |
| PKLR  | Seq    | DNA tumor | Likely Benign          | p.R367Q            | 6    | c.1100G>A      | 16.25              |

Gene Variants of Unknown Significance

| Gene  | Method | Analyte   | Variant Interpretation            | Protien Alteration | Exon | DNA Alteration           | Allele Frequency % |
|-------|--------|-----------|-----------------------------------|--------------------|------|--------------------------|--------------------|
| PTEN  | Seq    | DNA tumor | Variant of uncertain significance | p.M1V              | 7    | c.1A>G                   | 21.64              |
| KRAS  | Seq    | DNA tumor | Variant of uncertain significance | p.Y736fs*4         | 8    | c.2207_2212delinsTAGATTC | 13.75              |
| RNF43 | Seq    | DNA tumor | Variant of uncertain significance | p.T1195S           | 15   | c.3583A>T                | 3.9                |

Immunohistochemistry Results

| Biomarker    | Result            |
|--------------|-------------------|
| PR           | Positive  2+, 3%  |
| AR           | Negative  1+, 7%  |
| PD-L1(SP142) | Positive  1+, 25% |
| PTEN         | Negative  3+, 72% |
| ER           | Negative  2+, 21% |

Genes Tested with Indeterminate Results by Tumor DNA Sequencing

HDAC1      KIT      MYOD1

Specimen Information

Specimen ID: 9720

Specimen Collected: 2023-07-01

Specimen Recieved: 2023-07-04

Testing Initiated: 2023-07-04

Gross Description: 9720

Pathological Diagnosis:

Left breast, central, 12:00, suspicious mass, 12-gauge core needle biopsy: Infiltrating moderately-differentiated mammary carcinoma, grade 2, Nottingham score 6 (architectural grade 3, nuclear grade 2, mitotic figures 1).

Dissection Information:

Molecular testing of this specimen was performed after harvesting of targeted tissues with an approved manual microdissection technique. Candidate slides were examined under a microscope and areas containing tumor cells (and separately normal cells, when necessary for testing) were circled. A laboratory technician harvested targeted tissues for extraction from the marked areas using a dissection microscope.

Clinical Trials Connector

| CHEMOTHERAPY CLINICAL TRIALS |           |        |           |   |
|------------------------------|-----------|--------|-----------|---|
| Drug class                   | Biomarker | Method | Analyte   | Investigational agents  |
| Anti hormonal therapy        | ER        | IHC    | protein   | anastrozole, letrozole, exemestane, fulvestrant, tamoxifen, goserelin, leuprolide |
| Anti hormonal therapy        | PR        | IHC    | protein   | anastrozole, letrozole, exemestane, fulvestrant, tamoxifen, goserelin, leuprolide |
| Anti inflammatory agents     | PIK3CA    | NGS    | DNA tumor | aspirin   |

| TARGETED THERAPY CLINICAL TRIALS |           |        |           |  |
|----------------------------------|-----------|--------|-----------|--|
| Drug class                       | Biomarker | Method | Analyte   | Investigational agents   |
| Akt inhibitors                   | ARID1A    | NGS    | DNA tumor | AZD5363, MK-2206, ipataserib   |
| immunomodulatory agents          | TMB       | NGS    | DNA tumor | avelumab, atezolizumab, durvalumab, ipilimumab, nivolumab, pembrolizumab |
| PARP inhibitors                  | NBN       | NGS    | DNA tumor | BGB-290, BMN-673, olaparib, rucaparib, talazoparib                       |
| Akt/mTor inhibitors              | PIK3CA    | NGS    | DNA tumor | AZD5363, BYL719, MK-2206, ipataserib, everolimus, temsirolimus           |