Final Report

Patient

Name: Paula Dickerson
Date of Birth: 1966-10-28
Sex: Female
Case Number: 7606
Diagnosis: Chronic lymphocytic leukemia (CLL)

Specimen Information

Primary Tumor Site: Leukemia
Specimen Site: Spleen
Specimen ID: 8949
Specimen Collected: 2023-11-03
Test Initiated: 2023-11-05

Ordered By

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 BENEFT	trastuzumab, ado-trastuzumab emtansine, pertuzumab, fam-trastuzumab deruxtecan-nxki, lapatinib, neratinib, tucatinib	level 1

Cancer-Type Relevant Biomarkers

BioMarker	Method	Analyte	Result
ALK	Seq	DNA-Tumor	Fusion not detected
MSH2	Seq	RNA-Tumor	Stable
B2M	Seq	RNA-Tumor	Fusion not detected
PR	IHC	Protien	Positive| 3+, 75%
JAK2	Seq	DNA-Tumor	Mutation not detected

BioMarker	Method	Analyte	Result
PD-L1(SP142)	IHC	Protien	Positive| 3+, 65%
AR	IHC	Protien	Positive| 3+, 56%

Genomic Signatures

BioMarker	Method	Analyte	Result
Microsatellite instability	Seq	DNA tumor	Low
Tumor mutational burden	Seq	DNA tumor	6 mutations/Mb Low
Genomic loss of heterozygosity (LOH)	Seq	DNA tumor	Low - 13% 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 %
CALR	Seq	DNA tumor	Pathogenic	p.Q1756Pfs	5	c.68_69delAG	4.37
DDR2	Seq	DNA tumor	Benign	p.N452D	11	c.1354A>G	7.02
JAK3	Seq	DNA tumor	Likely Pathogenic	p.A374E	13	c	4.16

Gene Variants of Unknown Significance

Gene	Method	Analyte	Variant Interpretation	Protien Alteration	Exon	DNA Alteration	Allele Frequency %
MAP2K2	Seq	DNA tumor	Variant of uncertain significance	p.S163P	10	c.487T>C	12.79
TEK	Seq	DNA tumor	Variant of uncertain significance	p.L858A	7	c.1793G>T	1.77
MPL	Seq	DNA tumor	Variant of uncertain significance	p.M1R	12	c.2T>G	4.82
ARID2	Seq	DNA tumor	Variant of uncertain significance	p.W515L	2	c.1544G>T	14.53
FGFR2	Seq	DNA tumor	Variant of uncertain significance	p.W515K	5	c.1543_1545delinsAAA	7.87

Immunohistochemistry Results

Biomarker	Result
PTEN	Negative| 2+, 27%
ERBB2	Negative| 3+, 10%
ER	Positive| 2+, 98%
PD-L1(SP142)	Positive| 3+, 95%
AR	Negative| 2+, 64%

Biomarker	Result
MSH2	Negative| 2+, 76%

Genes Tested with Indeterminate Results by Tumor DNA Sequencing

TP53 NRAS HBA2 HSD3B1 FGFR1

Specimen Information

Specimen ID: 8949

Specimen Collected: 2023-11-03

Specimen Recieved: 2023-11-05

Testing Initiated: 2023-11-05

Gross Description: 8949

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	anastrazole, letrozole, exemestane, fulvestrant, tamoxifen, goserelin, leuprolide
Anti hormonal therapy	PR	IHC	protein	anastrazole, 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