Final Report

Patient

Name: David Hardin
Date of Birth: 1958-03-06
Sex: Male
Case Number: 9604
Diagnosis: Germ cell tumors

Specimen Information

Primary Tumor Site: Ovarian
Specimen Site: Pelvic and para-aortic lymph nodes
Specimen ID: 6386
Specimen Collected: 2024-02-16
Test Initiated: 2024-02-17

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	12 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
Mismatch repair status	IHC	Protien	Positive| 3+, 1%
ARHGAP45	Seq	DNA-Tumor	Stable
AR	IHC	Protien	Positive| 3+, 65%
Mismatch repair status	IHC	Protien	Negative| 3+, 71%

Genomic Signatures

BioMarker	Method	Analyte	Result
Microsatellite instability	Seq	DNA tumor	Equivocal
Tumor mutational burden	Seq	DNA tumor	12 mutations/Mb Low
Genomic loss of heterozygosity (LOH)	Seq	DNA tumor	High - 19% 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.R248C	17	c.1111A>T	25.74
CDKN2A	Seq	DNA tumor	Benign	p.F1888L	13	c.5664C>G	19.58
MYO1G	Seq	DNA tumor	Benign	p.R1012X	4	3	3.87

Gene Variants of Unknown Significance

Gene	Method	Analyte	Variant Interpretation	Protien Alteration	Exon	DNA Alteration	Allele Frequency %
BTK	Seq	DNA tumor	Variant of uncertain significance	p.S163P	4	c.487T>C	18.0
DDR2	Seq	DNA tumor	Variant of uncertain significance	p.G370C	19	c.746C>G	21.95
TEK	Seq	DNA tumor	Variant of uncertain significance	p.V49M	19	c.145G>A	11.2
PHF6	Seq	DNA tumor	Variant of uncertain significance	p.G742X	10	.	11.29
H3.3	Seq	DNA tumor	Variant of uncertain significance	p.S2309Cfs*10	5	c.4394A>G	4.64

Immunohistochemistry Results

Biomarker	Result
AR	Negative| 3+, 64%
PTEN	Negative| 1+, 73%
MSH6	Negative| 2+, 56%
ER	Negative| 1+, 94%
PD-L1(SP142)	Negative| 3+, 57%

Biomarker	Result
ERBB2	Positive| 1+, 35%

Genes Tested with Indeterminate Results by Tumor DNA Sequencing

B2M HDAC1 MAP2K2 NTRK1 STAT5B PKLR

Specimen Information

Specimen ID: 6386
Specimen Collected: 2024-02-16
Specimen Recieved: 2024-02-17
Testing Initiated: 2024-02-17
Gross Description: 6386

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