Final Report

Patient

Name: Jennifer Sims DDS
Date of Birth: 1977-07-27
Sex: Male
Case Number: 5167
Diagnosis: Adenocarcinoma

Specimen Information

Primary Tumor Site: Prostate
Specimen Site: Seminal vesicles
Specimen ID: 3539
Specimen Collected: 2024-01-18
Test Initiated: 2024-01-23

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	10 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
ERCC2	Seq	RNA-Tumor	Mutation not detected
AR	IHC	Protien	Negative| 1+, 87%
B2M	Seq	DNA-Tumor	Mutation not detected
AR	IHC	Protien	Positive| 1+, 3%

Genomic Signatures

BioMarker	Method	Analyte	Result
Microsatellite instability	Seq	DNA tumor	Equivocal
Tumor mutational burden	Seq	DNA tumor	10 mutations/Mb Low
Genomic loss of heterozygosity (LOH)	Seq	DNA tumor	Low - 1% 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 %
STAG2	Seq	DNA tumor	Pathogenic	p.G1386D	5	>	2.3
MYCN	Seq	DNA tumor	Likely Pathogenic	p.E318D	12	c.380G>C	6.8
PKLR	Seq	DNA tumor	Likely Pathogenic	p.G607V	2	c.1792C>T	15.47
CDKN2A	Seq	DNA tumor	Likely Pathogenic	p.Y736fs*4	2	c.2207_2212delinsTAGATTC	9.33
EZH2	Seq	DNA tumor	Likely Benign	p.A572G	7	A	8.03
KIT	Seq	DNA tumor	Likely Pathogenic	p.S163P	12	c.487T>C	5.57

Gene Variants of Unknown Significance

Gene	Method	Analyte	Variant Interpretation	Protien Alteration	Exon	DNA Alteration	Allele Frequency %
SMO	Seq	DNA tumor	Variant of uncertain significance	p.S163P	9	c.487T>C	12.84
PTPN11	Seq	DNA tumor	Variant of uncertain significance	p.L265P	16	c.794T>C	2.95
MYO1G	Seq	DNA tumor	Variant of uncertain significance	p.L265P	17	c.794T>C	4.22
TLR8	Seq	DNA tumor	Variant of uncertain significance	p.A572G	9	3	1.94
PDGFRB	Seq	DNA tumor	Variant of uncertain significance	p.P98S	5	>	5.33

Immunohistochemistry Results

Biomarker	Result
MSH2	Negative| 1+, 26%
AR	Positive| 3+, 63%
ERBB2	Negative| 1+, 65%
PTEN	Negative| 2+, 92%
PD-L1(SP142)	Positive| 3+, 77%

Biomarker	Result
PMS2	Negative| 2+, 76%
MSH6	Positive| 1+, 46%
ER	Positive| 3+, 43%

Genes Tested with Indeterminate Results by Tumor DNA Sequencing

ERCC2 H3.3 FGFR3

Final Report

Specimen Information

Specimen ID: 3539

Specimen Collected: 2024-01-18

Specimen Recieved: 2024-01-23

Testing Initiated: 2024-01-23

Gross Description: 3539

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