Final Report

Patient

Name: Dennis Potter
Date of Birth: 1972-01-08
Sex: Male
Case Number: 8751
Diagnosis: Adenocarcinoma

Specimen Information

Primary Tumor Site: Prostate
Specimen Site: Periprostatic tissue
Specimen ID: 7741
Specimen Collected: 2023-11-14
Test Initiated: 2023-11-14

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	18 m/Mb High	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
RNF43	Seq	DNA-Tumor	Mutation not detected
SDHD	Seq	RNA-Tumor	Mutation not detected
ARID2	Seq	RNA-Tumor	Stable
AR	IHC	Protien	Positive| 3+, 95%
ERBB2	Seq	RNA-Tumor	Fusion not detected

Genomic Signatures

BioMarker	Method	Analyte	Result
Microsatellite instability	Seq	DNA tumor	Low
Tumor mutational burden	Seq	DNA tumor	18 mutations/Mb High
Genomic loss of heterozygosity (LOH)	Seq	DNA tumor	High - 36% 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 %
PKLR	Seq	DNA tumor	Benign	p.S1982Rfs*22	20	c.5946delT	25.14
JAK2	Seq	DNA tumor	Likely Benign	p.I1600M	2	c.4800C>G	20.83
IKZF1	Seq	DNA tumor	Likely Pathogenic	p.E545K	11	c.1625A>T	9.3
HRAS	Seq	DNA tumor	Likely Benign	p.R465H	5	c.1394G>A	14.11
ALDH2	Seq	DNA tumor	Pathogenic	p.A34V	14	G	3.63

Gene Variants of Unknown Significance

Gene	Method	Analyte	Variant Interpretation	Protien Alteration	Exon	DNA Alteration	Allele Frequency %
GNAS	Seq	DNA tumor	Variant of uncertain significance	p.R367Q	10	c.1100G>A	15.45
MAPK1	Seq	DNA tumor	Variant of uncertain significance	p.C134W	2	c.402C>G	13.12
SIX1	Seq	DNA tumor	Variant of uncertain significance	p.V504_R506dup	16	c.1405G>A	9.34

Immunohistochemistry Results

Biomarker	Result
PR	Negative| 2+, 56%
PD-L1(SP142)	Negative| 2+, 39%
ERBB2	Positive| 1+, 72%
MLH1	Negative| 3+, 28%
PMS2	Positive| 3+, 60%

Biomarker	Result
MSH2	Negative| 1+, 34%
ER	Negative| 2+, 56%
MSH6	Positive| 3+, 14%
AR	Positive| 2+, 54%
PTEN	Positive| 3+, 9%

Genes Tested with Indeterminate Results by Tumor DNA Sequencing

FGFR1 NRAS CD74 MYOD1

Specimen Information

Specimen ID: 7741

Specimen Collected: 2023-11-14

Specimen Recieved: 2023-11-14

Testing Initiated: 2023-11-14

Gross Description: 7741

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