Final Report

Patient

Name: Christina Ingram
Date of Birth: 1960-09-01
Sex: Male
Case Number: 1947
Diagnosis: Squamous cell carcinoma

Specimen Information

Primary Tumor Site: Lung
Specimen Site: Bronchus
Specimen ID: 7351
Specimen Collected: 2023-05-19
Test Initiated: 2023-05-20

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	15 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
Mismatch repair status	IHC	Protien	Positive| 3+, 71%
PD-L1(SP142)	IHC	Protien	Positive| 1+, 88%
AR	IHC	Protien	Positive| 3+, 2%

Genomic Signatures

BioMarker	Method	Analyte	Result
Microsatellite instability	Seq	DNA tumor	High
Tumor mutational burden	Seq	DNA tumor	15 mutations/Mb High
Genomic loss of heterozygosity (LOH)	Seq	DNA tumor	High - 22% 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 %
SMO	Seq	DNA tumor	Pathogenic	p.N713_A714insKGKGGG	15	c.1924A>C	30.25
APC	Seq	DNA tumor	Likely Pathogenic	p.I1600M	6	c.4800C>G	25.67
RNF43	Seq	DNA tumor	Benign	p.N452D	7	c.1354A>G	8.5
BRAF	Seq	DNA tumor	Pathogenic	p.*143Qext*31	10	c.427T>C	20.11
SRSF2	Seq	DNA tumor	Benign	p.R132C	13	c.394_395delinsGT	6.12

Gene Variants of Unknown Significance

Gene	Method	Analyte	Variant Interpretation	Protien Alteration	Exon	DNA Alteration	Allele Frequency %
TLR8	Seq	DNA tumor	Variant of uncertain significance	p.R465H	6	c.1394G>A	8.68
ALK	Seq	DNA tumor	Variant of uncertain significance	p.A34V	17	G	20.1
H3.3	Seq	DNA tumor	Variant of uncertain significance	p.A374E	2	A	3.21

Immunohistochemistry Results

Biomarker	Result
ER	Positive| 2+, 11%
PTEN	Positive| 1+, 48%
MSH6	Positive| 2+, 96%
PMS2	Positive| 1+, 48%
ERBB2	Positive| 2+, 61%

Biomarker	Result
PD-L1(SP142)	Negative| 3+, 46%

Genes Tested with Indeterminate Results by Tumor DNA Sequencing

FLT3 ARHGAP45 NT5C2 PAX5 XPC

Specimen Information

Specimen ID: 7351

Specimen Collected: 2023-05-19

Specimen Recieved: 2023-05-20

Testing Initiated: 2023-05-20

Gross Description: 7351

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