PATIENT

DISEASE Unknown primary melanoma
NAME Lekavich, Florence
DATE OF BIRTH 09 November 1929
SEX Female
MEDICAL RECORD # 386214

PHYSICIAN

ORDERING PHYSICIAN Gene Finley
MEDICAL FACILITY Allegheny Health Network Cancer Institute - Natrona Heights
ADDITIONAL RECIPIENT Nath
MEDICAL FACILITY ID 202051
PATHOLOGIST Manju Nath

SPECIMEN

SPECIMEN SITE Rectum
SPECIMEN ID AVS18-1501 1A
SPECIMEN TYPE Slide
DATE OF COLLECTION 20 March 2018
SPECIMEN RECEIVED 30 March 2018

NO REPORTABLE ALTERATIONS WITH COMPANION DIAGNOSTIC (CDx) CLAIMS

See professional services section for additional information

OTHER ALTERATIONS & BIOMARKERS IDENTIFIED

Results reported in this section are not prescriptive or conclusive for labeled use of any specific therapeutic product. See *professional services* section for additional information.

Microsatellite status MS-Stable §
Tumor Mutational Burden 3 Muts/Mb §
BRAF amplification §
CDKN2A loss §
CDKN2B loss §
KDR amplification §
KIT amplification §
PDGFRA amplification §
RET E511K
TET2 Q1466*
TP53 V172D

§ Refer to appendix for limitation statements related to detection of any copy number alterations, gene rearrangements, MSI or TMB result in this section.

Please refer to appendix for Explanation of Clinical Significance Classification and for variants of unknown significance (VUS).

FoundationOne CDx™ (F1CDx) is a next generation sequencing based in vitro diagnostic device for detection of substitutions, insertion and deletion alterations (indels), and copy number alterations (CNAs) in 324 genes and select gene rearrangements, as well as genomic signatures including microsatellite instability (MSI) and tumor mutational burden (TMB) using DNA isolated from formalin-fixed paraffin embedded (FFPE) tumor tissue specimens. The test is intended as a companion diagnostic to identify patients who may benefit from treatment with the targeted therapies listed in Table 1 in accordance with the approved therapeutic product labeling. Additionally, F1CDx is intended to provide tumor mutation profiling to be used by qualified health care professionals in accordance with professional guidelines in oncology for patients with solid malignant neoplasms. The F1CDx assay is a single-site assay performed at Foundation Medicine, Inc.

TABLE 1

INDICATIONS	BIOMARKER	THERAPY
Non-small cell lung cancer (NSCLC)	*EGFR* exon 19 deletions and *EGFR* exon 21 L858R alterations	Gilotrif® (Afatinib), Iressa® (Gefitinib), or Tarceva® (Erlotinib)
	EGFR exon 20 T790M alterations	Tagrisso® (Osimertinib)
	ALK rearrangements	Alecensa® (Alectinib), Xalkori® (Crizotinib), or Zykadia® (Ceritinib)
	BRAF V600E	Tafinlar® (Dabrafenib) in combination with Mekinist® (Trametinib)
Melanoma	*BRAF* V600E	Tafinlar® (Dabrafenib) or Zelboraf® (Vemurafenib)
	BRAF V600E or V600K	Mekinist® (Trametinib) or Cotellic® (Cobimetinib) in combination with Zelboraf® (Vemurafenib)
Breast cancer	*ERBB2* (HER2) amplification	Herceptin® (Trastuzumab), Kadcyla® (Ado-trastuzumab emtansine), or Perjeta® (Pertuzumab)
Colorectal cancer	*KRAS* wild-type (absence of mutations in codons 12 and 13)	Erbitux® (Cetuximab)
	KRAS wild-type (absence of mutations in exons 2, 3, and 4) and *NRAS* wild type (absence of mutations in exons 2, 3, and 4)	Vectibix® (Panitumumab)
Ovarian cancer	*BRCA1/2* alterations	Rubraca® (Rucaparib)

ABOUT THE TEST FoundationOne CDx™ is the first FDA-approved broad companion diagnostic for solid tumors.

Interpretive content on this page and subsequent pages is provided as a professional service, and is not reviewed or approved by the FDA.

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Biomarker Findings

Microsatellite Status - MS-Stable
Tumor Mutational Burden - TMB-Low (3 Muts/Mb)

Genomic Findings

For a complete list of the genes assayed, please refer to the Appendix.

KDR amplification
KIT amplification
PDGFRA amplification - equivocal†
RET E511K
BRAF amplification - equivocal†
CDKN2A/B p14ARF loss exon 1 and CDKN2B loss
TET2 Q1466*
TP53 V172D

1 Disease relevant genes with no reportable alterations: *NRAS*

† See About the Test in appendix for details.

10 Therapies with Clinical Benefit
0 Therapies with Lack of Response
15 Clinical Trials

BIOMARKER FINDINGS	ACTIONABILITY
Microsatellite status - MS-Stable	**No therapies or clinical trials.** see Biomarker Findings section
Tumor Mutational Burden - TMB-Low (3 Muts/Mb)	**No therapies or clinical trials.** see Biomarker Findings section

GENOMIC FINDINGS	THERAPIES WITH CLINICAL BENEFIT (IN PATIENT'S TUMOR TYPE)	THERAPIES WITH CLINICAL BENEFIT (IN OTHER TUMOR TYPE)
***KDR* - amplification**	none	Sunitinib
4 Trials *see p. 14*		
***KIT* - amplification**	none	Everolimus
		Imatinib
		Nilotinib
		Sorafenib
		Sunitinib
		Temsirolimus
10 Trials *see p. 15*		
***PDGFRA* - amplification - equivocal**	none	Imatinib
1 Trials *see p. 17*		

GENOMIC FINDINGS	THERAPIES WITH CLINICAL BENEFIT (IN PATIENT'S TUMOR TYPE)	THERAPIES WITH CLINICAL BENEFIT (IN OTHER TUMOR TYPE)
RET **-** E511K	none	Cabozantinib
		Lenvatinib
		Ponatinib
		Sorafenib
		Sunitinib
6 Trials *see p. 18*		Vandetanib

GENOMIC FINDINGS WITH NO REPORTABLE THERAPEUTIC OR CLINICAL TRIAL OPTIONS

For more information regarding biological and clinical significance, including prognostic, diagnostic, germline, and potential chemosensitivity implications, see the Genomic Alterations section.

Note: Genomic alterations detected may be associated with activity of certain FDA approved drugs; however, the agents listed in this report may have varied clinical evidence in the patient's tumor type. Neither the therapeutic agents nor the trials identified are ranked in order of potential or predicted efficacy for this patient, nor are they ranked in order of level of evidence for this patient's tumor type.

Electronically signed by Julia Elvin, M.D., Ph.D. | Jeffrey Ross, M.D., Medical Director | 08 April 2018 | Foundation Medicine, Inc. | 1.888.988.3639

Sample Preparation: 150 Second St., 1st Floor, Cambridge, MA 02141 · CLIA: 22D2027531
Sample Analysis: 150 Second St., 1st Floor, Cambridge, MA 02141 · CLIA: 22D2027531