Pancreatic Sample
Brittany Munoz

Diagnosis
Adenocarcinoma

Accession No.
5628

xT

Date of Birth
1933-09-18

Sex
Female

Physician
Dr. Timothy Lee

Institution
Collins-Wilson

Tumor specimen:
source Pancreatic
CollectedDate 2024-02-21
ReceivedDate 2024-02-23
TumorPercentage 23%

Normal specimen:
source Blood
CollectedDate 2024-02-24
ReceivedDate 2024-02-29

GENOMIC VARIANTS

Somatic - Potentially Actionable		variant allele fraction
CCND3	c.766_776del11 p.R256fs*64 Spliceregionvariant-GOF	30.5%
XPC	c.3113A>G p.S346P Frameshift-LOF	32.25%
TEK	c.1354A>G p.N452D Nonsense-LOF	13.57%

Somatic - Biologically Relevant		
JAK3	c.3113A>G p.N452D Nonsense-GOF	9.82%
ZEB2	c.3113A>G p.L857P Frameshift-LOF	5.12%
STAG2	c.3113A>G p.N452D Nonsense-GOF	12.0%

Germline - Pathogenic

No Germline - Pathogenic variants were found in the limited set of genes on which we report.

Pertinent Negatives

PTPN11 IDH1

IMMUNOTHERAPY MARKERS

Tumor Mutational Burden

42 m/Mb 30%

Microsatellite Instability Status

Stable | **Equivocal** | High

FDA-APPROVED THERAPIES, Current Diagnosis

KRAS G12C Inhibitors	**Sotorasib**	NCCN, Consensus, Non-Small Cell Lung Cancer MSK OncoKB, Level 1 KRASp.G12C G12C-GOF

FDA-APPROVED THERAPIES, Other Indications

KRAS G12C Inhibitors	**Sotorasib**	NCCN, Consensus, Non-Small Cell Lung Cancer MSK OncoKB, Level 1 KRASp.G12C G12C-GOF

ADDITIONAL INDICATORS

Unfavorable Prognosis	NCCN, Consensus, Non-Small Cell Lung Cancer KRASp.G12C Gain-of-function

CLINICAL TRIALS

A Study of VS-6766 v. VS-6766 + Defactinib in Recurrent G12V, Other KRAS and BRAF Non-Small Cell Lung Cancer	**Phase 2** City, state - x mi **KRAS mutation**
A Phase 1/2 Study of MRTX849 in Patients With Cancer Having a KRAS G12C Mutation KRYSTAL-1	**Phase 1/2** City, state - x mi **KRAS mutation** **STK11 mutation**
First-in-human Study of DRP-104 (Sirpiglenastat) as Single Agent and in Combination With Atezolizumab in Patients With Advanced Solid Tumors. (NCT04471415)	**Phase 1/2** City, state - x mi **NFE2L2 mutation** **STK11 mutation**

VARIANTS OF UNKNOWN SIGNIFICANCE

Somatic	Mutation effect	Variant allele fraction
CTNNB1	c.97T>C p.S33C Spliceregionvariant-LOF NM_001011645	1.6%
FGFR2	c.1645A>C p.Y375C Spliceregionvariant-LOF NM_001011645	2.25%
HDAC2	c.3113A>G p.E455fs*7 Nonsense-GOF NM_001011645	5.51%
RB1	c.3113A>G p.F650S Frameshift-GOF NM_001011645	3.12%
NT5C2	c.1100G>A p.R367Q Spliceregionvariant-LOF NM_001011645	6.51%
HSD3B1	c.1100= p.T367= Missensevariant(exon2)-GOF NM_001011645	1.25%
MYO1G	c.145G>A p.V49M Frameshift-GOF NM_001011645	7.29%
NTRK1	c.1792C>T p.G607V Spliceregionvariant-LOF NM_001011645	3.6%
FGFR3	c.1111A>T p.G380R Frameshift-LOF NM_001011645	9.89%
PIK3CA	c.3141T>G p.E542G Spliceregionvariant-LOF NM_001011645	6.39%

LOW COVERAGE REGIONS

CCND3

SOMATIC VARIANT DETAILS - POTENTIALLY ACTIONABLE

CCND3 c.766_776del11 p.R256fs*64 Spliceregionvariant-GOF VAF: 30.5%

TP53 encodes a protein that is a transcription factor that regulates the expression of genes involved in cell cycle arrest, apoptosis, and DNA repair. TP53 is a tumor suppressor gene that is mutated in many cancers. Mutations in TP53 are associated with cancer progression.

XPC c.3113A>G p.S346P Frameshift-LOF VAF: 32.25%

PTEN encodes a phosphatase that acts as a tumor suppressor by negatively regulating the PI3K-AKT-mTOR pathway. Loss of function mutations, copy number loss, and underexpression of PTEN are associated with cancer progression.

TEK c.1354A>G p.N452D Nonsense-LOF VAF: 13.57%

KRAS is a GDP/GTP binding protein that acts as an intracellular signal transducer. KRAS is involved in several pathways involved in cellular proliferation and survival, including the PI3K-AKT-mTOR pathway and the Ras-Raf-MEK-ERK pathway. Activating mutations, copy number gains, and overexpression of KRAS are associated with cancer progression.

SOMATIC VARIANT DETAILS - BIOLOGICALLY RELEVANT

JAK3 c.3113A>G p.N452D Nonsense-GOF VAF: 9.82%

ARID2 encodes a protein that is a subunit of the SWI/SNF chromatin remodeling complex SWI/SNF-B or PBAF. This complex functions in ligand-dependent transcriptional activation. Loss of function mutations and copy number loss of ARID2 are associated with cancer progression.

ZEB2 c.3113A>G p.L857P Frameshift-LOF VAF: 5.12%

PTEN encodes a phosphatase that acts as a tumor suppressor by negatively regulating the PI3K-AKT-mTOR pathway. Loss of function mutations, copy number loss, and underexpression of PTEN are associated with cancer progression.

STAG2 c.3113A>G p.N452D Nonsense-GOF VAF: 12.0%

NFE2L2 acts as a transcription factor for proteins that contain an antioxidant response element (ARE) within their promoter sequence. Genes that contain ARE are involved in injury and inflammation response. Activating mutations and overexpression of NFE2L2 are associated with cancer progression.

CLINICAL HISTORY

Diagnosed on

2024-02-17