Skin Sample
Megan Nguyen

Diagnosis
Squamous cell carcinoma

Accession No.
3863

xT

Date of Birth
1984-04-09

Sex
Female

Physician
Dr. Joshua Navarro

Institution
Delgado Ltd

Tumor specimen:
source Skin
CollectedDate 2023-08-01
ReceivedDate 2023-08-06
TumorPercentage 53%

Normal specimen:
source Blood
CollectedDate 2023-08-04
ReceivedDate 2023-08-07

GENOMIC VARIANTS

Somatic - Potentially Actionable		variant allele fraction
CDKN2A	c.89C>T p.V51D Frameshift-LOF	3.48%

Somatic - Biologically Relevant		
FGFR2	c.1124A>G p.V679F Spliceregionvariant-LOF	11.12%
CALR	c.1092_1143del52 p.N549K Frameshift-LOF	16.65%
U2AF1	c.3113A>G p.Q157X Spliceregionvariant-LOF	22.15%
STAT5B	c.1924A>C p.K659E Missensevariant(exon2)-GOF	5.23%
EGFR	c.2375T>A p.L718X Frameshift-LOF	12.69%

Germline - Pathogenic

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

Pertinent Negatives

PTPN11 FGFR3 ARID2 MET

IMMUNOTHERAPY MARKERS

Tumor Mutational Burden

48 m/Mb 96%

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
MYO1G	c.145G>A p.V49M Spliceregionvariant-LOF NM_001011645	3.55%
APC	c.3920T>A p.I1307K Spliceregionvariant-LOF NM_001011645	6.03%
KRAS	c.38G>C p.Q61H Stopgain-LOF NM_001011645	2.78%
MAPK1	c.964G>A p.E322K Stopgain-LOF NM_001011645	1.87%
BLM	c.2207_2212delinsTAGATTC p.Y736fs*4 Nonsense-LOF NM_001011645	8.75%
MYO1G	c.145G>A p.V49M Nonsense-GOF NM_001011645	9.39%
NCSTN	c.3113A>G p.A572G Spliceregionvariant-GOF NM_001011645	7.86%
FBXW7	c.1394G>A p.R465H Nonsense-GOF NM_001011645	5.07%
HBB	c.20A>T p.E7V Frameshift-LOF NM_001011645	2.41%
ZEB2	c.3113A>G p.H1038R Nonsense-GOF NM_001011645	3.73%

LOW COVERAGE REGIONS

DPYD HDAC1 BRAF

SOMATIC VARIANT DETAILS - POTENTIALLY ACTIONABLE

CDKN2A c.89C>T p.V51D Frameshift-LOF VAF: 3.48%

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.

SOMATIC VARIANT DETAILS - BIOLOGICALLY RELEVANT

FGFR2 c.1124A>G p.V679F Spliceregionvariant-LOF VAF: 11.12%

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.

CALR c.1092_1143del52 p.N549K Frameshift-LOF VAF: 16.65%

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.

U2AF1 c.3113A>G p.Q157X Spliceregionvariant-LOF VAF: 22.15%

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.

STAT5B c.1924A>C p.K659E Missensevariant(exon2)-GOF VAF: 5.23%

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.

EGFR c.2375T>A p.L718X Frameshift-LOF VAF: 12.69%

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.

CLINICAL HISTORY

Diagnosed on

2023-07-31