

Lynch Syndrome/ HNPCC Gene Panel-Focused

PATIENT	REPORT DATE	BOOKING ID
Mridul Sachdeva	13 August 2019	# 011906280076

Test Description

Lynch syndrome is a hereditary cancer arising from loss of function mutations in DNA mismatch repair genes, such as *MLH1*, *MSH2*, *MSH3*, *MSH6*, *PMS2*, and *EPCAM*. MolQ Lynch Syndrome panel includes next-generation sequencing of these genes for mutations and large deletions/duplications.

Patient Demographic

Name: Mr. Mridul Sachdeva Sex: Male Date of Birth/Age: 18 years Disease: Healthy Individual

Clinician

Clinician Name: Dr Amit Verma Medical Facility: Max Hospital Pathologist: Not Provided

Specimen

Booking ID: 011906280076 Site: NA Sample Type: Blood Date of Collection: 28-06-2019 Date of Booking: 28-06-2019

CLINICAL SYNOPSIS

The index patient, Ms. Seema Sachdeva is a case of moderately differentiated endometrioid adenocarcinoma. She was found to harbor a heterozygous variation in *MLH1* gene. Her son is being evaluated for the same variation.

RESULTS

The same likely pathogenic variation was not detected in the asymptomatic son of the index patient, Mr. Mridul Sachdeva.

Gene	Location	Variation reported in the index patient	Zygosity	Clinical condition of family member	Classification	Variation reported in family member
<i>MLH1</i> (ENST00000 231790.2) ¹	Exon 3	Chr3:37042544G>T (HET); c.306G>T (p.Glu102Asp)	Heterozygous	Asymptomatic	Likely Pathogenic	Absent

CLINICAL CORRELATION AND VARIANT INTERPRETATION

Variant description: A heterozygous missense variation in exon 3 of the *MLH1* gene (chr3:37042544G>T; c.306G>T) that results in the amino acid substitution of Aspartic Acid for Glutamic Acid at codon 102 (p.Glu102Asp) was detected in the index patient, Ms. Seema Sachdeva (Sample ID: 218474) by NGS and was further validated by Sanger sequencing.

The same likely pathogenic variation was not detected in the asymptomatic son of the index patient, Mr. Mridul Sachdeva (Figure 1).

stinder Kaws

Jatinder Kaur, PhD Head, Molecular Biology & Genomics

wish

Dr. Gulshan Yadav, MD Head, Pathology



APPENDIX 1: TEST METHODOLOGY

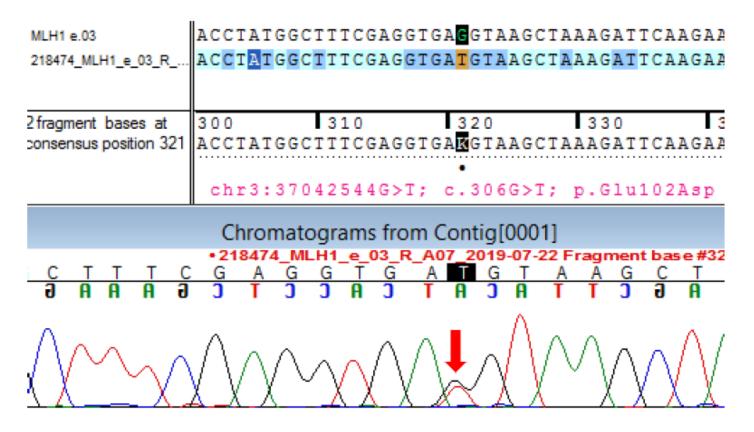
Method

Exon 3 of the *MLH1* gene was PCR-amplified and the product was sequenced using Sanger sequencing. In case of mosaicism in leucocytes, the detection limits of Sanger sequencing for presence of variation is ~12%. The sequence was aligned to available reference sequence ENST00000231790.2¹ to detect variation using variant analysis software programs. Variant classification follows the tenets of American College of Medical Genetics (ACMG) guidelines².

REFERENCES

- 1. ENSEMBL: http://www.ensembl.org
- 2. Green R. C., et al., American College of Medical Genetics and Genomics. ACMG recommendations for reporting of incidental findings in clinical exome and genome sequencing. Genet Med. 2013 Jul;15(7):565-74.

Figure 1: Sequence chromatogram and alignment to the reference sequence showing the variation in exon 3 of the *MLH1* gene (chr3:37042544G>T; c.306G>T; p.Glu102Asp) detected in the index patient, Ms Seema Sachdeva (A) and not detected in the son of the index patient, Mr. Mridul Sachdeva (B).



(A) 218474-Index patient Ms. Seema Sachdeva

MolQ Laboratory (A Unit of Molecular Quest Healthcare Pvt. Ltd.)

Reference Laboratory: 28-29, Sector-18 (P) I Gurgaon, Haryana, 122015 I Phone 0124 - 4307906, Fax 0124 - 4278596 I Email: contact@molq.in

(B) 283182-Sibling of the index patient Mr Mridul Sachdeva

MLH1 e.03	ACCTATGGCT	TTCGAGGTGA <mark>G</mark> GTAA(GCTAAAGATTCAAGAA				
283182_MLH1_e_03_R	ACCTATGGCT	TTCGAG <mark>G</mark> TGA <mark>G</mark> GTAA(GCTAAAGATTCAAGAA				
2 fragment bases at		320 330	340				
consensus position 330	ACCTATGGCT	TTCGAGGTGA <mark>G</mark> GTAA(GCTAAAGATTCAAGAA.				
	chr3:3704	2544G>T; c.306G:	>T; p.Glu102Asp				
Characterene from Contin[0001]							
Chromatograms from Contig[0001] 283182_MLH1_e_03_R_H06_2019-07-22 Fragment base #330. Base 330 of 546							
зсттт		03_R_H06_2019-07-22 Fragment G T G A G G	tbase #330. Base 330 of 546 Τ Δ Δ G C T				
วีอีล่ล่ล่อ	<u>ĭ ĭ ĭ ĭ ĭ ː</u>	<u>וכ כַ ד כ א כ</u>	Ă Ť Ť Ŏ Ŏ Ă				
		(۱				
$\Lambda \Lambda $							