

## DNA TEST REPORT – MEDGENOME LABORATORIES

Order ID/Sample ID:	<b>100423/246596; 100423/246591</b>	Sample Type:	Blood (2.5 ml) in EDTA tube
Full name/Ref no:	<b>Mr. Ankur Bhardwaj (246596)</b> <b>Mr. Roop Singh (236639)</b>	Date & time of Sample Collection:	NA
Referring Clinician:	Dr. Amit Verma, Molq, Gurgaon	Date & time of Sample Receipt:	26-02-2019; 04.25 PM
		Order Date & time	27-02-2019; 04.55 PM
		Date & time of Report:	02-04-2019; 06.30 PM
Test Requested:	<b>Additional family member (investigational) testing (MGM1157)</b>		

## CLINICAL DIAGNOSIS / SYMPTOMS / HISTORY

The index patient, Ms. Krishnadevi Bhardwaj with no family history of cancer. She was found to harbor a heterozygous variation in the *BRCA2* gene. Her son and brother are being evaluated for the same variation.

## RESULT SUMMARY

Analysis for: Variation detected by Next Generation Sequencing in the <i>BRCA2</i> gene of Ms. Krishnadevi Bhardwaj (90971)								
Sl. no.	Sample ID	Name, Gender, Age	Relationship to index patient	Gene Name	Exon / Intron	Variation reported in the index patient	Variation detected in family member*	Clinical condition of family member
1.	246596	Mr. Ankur Bhardwaj, Male, 32yrs	Son	<i>BRCA2</i>	Exon 3	chr13:32893238G>G/A (HET); c.92G>G/A; p.Trp31Ter	Present (Heterozygous)	Asymptomatic
2.	246591	Mr. Roop Singh, Male, 64yrs	Brother				Present (Heterozygous)	Asymptomatic

\* The variant analysis in Sanger sequencing is based on the *BRCA2* Reference sequence ENST00000544455 [1]. The exon number and nucleotide numbers will differ based on the reference file chosen and the database used.

## INTERPRETATION

A heterozygous nonsense variation in exon 3 of the *BRCA2* gene (**chr13:32893238G>G/A; c.92G>G/A**) that results in a stop codon and premature truncation of the protein at codon 31 (**p.Trp31Ter**) was detected in index patient, Ms. Krishnadevi Bhardwaj (Sample ID: 90971) by NGS and was further validated by Sanger sequencing.

The same pathogenic variation was detected in heterozygous condition in the asymptomatic son of the index patient, Mr. Ankur Bhardwaj (Fig. 1 A) and asymptomatic brother of the index patient, Mr. Roop Singh (Fig. 1 B). **Males with *BRCA2* gene variations are at increased risk of developing cancers of prostate and breast [2]. Incomplete penetrance and variable age of cancer development have been reported in *BRCA2* gene variants [3]. Hence the results have to be carefully correlated with clinical condition of the individuals tested.**

## TEST METHODOLOGY

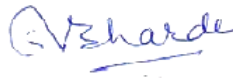
Exon 3 of the *BRCA2* gene was PCR - amplified and the product was sequenced using Sanger sequencing. In case of mosaicism in leucocytes, the detection limits of Sanger sequencing for presence of variation is ~12%. The sequence was aligned to available reference sequence ENST00000544455 [1] to detect variation using variant analysis software programs.

### Report prepared by:



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Consultant - Clinical Geneticist

### Report released by:



**V L Ramprasad, PhD**  
Chief Operating Officer

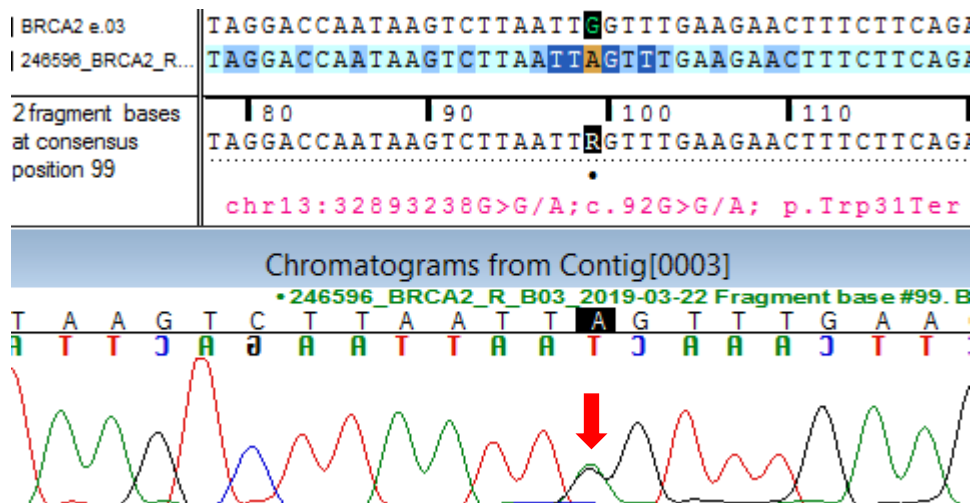
## REFERENCES

1. ENSEMBL: <http://www.ensembl.org>
2. Liede, A., Karlan, B. and Narod, S. (2004). Cancer Risks for Male Carriers of Germline Mutations in *BRCA2* or *BRCA1*: A Review of the Literature. *Journal of Clinical Oncology*, 22(4), pp.735-742.
3. Petrucelli N, Daly MB, Pal T. *BRCA1*- and *BRCA2*-Associated Hereditary Breast and Ovarian Cancer. 1998 Sep 4 [Updated 2016 Dec 15]. In: Adam MP, Ardinger HH, Pagon RA, et al., editors. *GeneReviews*<sup>®</sup> [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2019

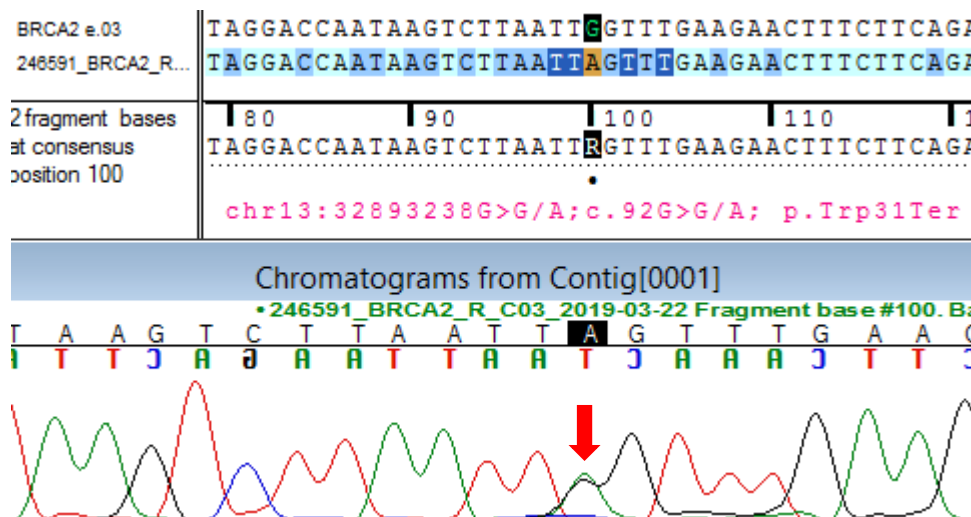
## ANNEXURE-I

**Fig1: Sequence chromatogram and alignment to the reference sequence showing the variation in exon 3 of the *BRCA2* gene (chr13:32893238G>G/A; c.92G>G/A; p.Trp31Ter) detected in heterozygous condition in Mr. Ankur Bhardwaj (A) and Mr. Roop Singh (B).**

### A. 246596 – Son of the index patient (Mr. Ankur Bhardwaj)



### B. 246591 – Brother of the index patient (Mr. Roop Singh)



-----End of Report-----