

### Test Description

1p/19q Co-deletion via Fluorescent *in situ* Hybridisation (FISH). 1p/19q co-deletion is the most extensively investigated candidate biomarkers in gliomas. This co-deletion is characterized as an early molecular genetic event in oligodendroglial tumors and is known to be associated with better prognosis and enhanced response to therapy.

### Patient Demographic

**Name:** Mr Dharmender Gulati  
**Sex:** Male  
**Date of Birth/Age:** 68 years  
**Disease:** High Grade Glioma

### Clinician

**Clinician Name:** Dr Archit Pandit  
**Medical Facility:** Max Hospital  
**Pathologist:** Not Provided

### Specimen

**Booking ID:** 011911150282  
**Site:** Brain  
**Sample Type:** One FFPE block labelled as S-6808/19 B  
**Date of Collection:** 15-11-2019  
**Date of Booking:** 15-11-2019

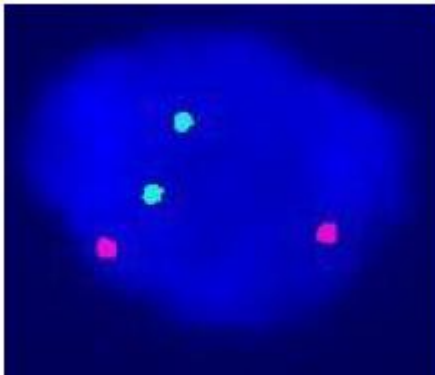
### RESULT SUMMARY

Abnormality Name	Result	ISCN 2016
1p/19q co-deletion	Negative	nuc ish(TP73x2,ABL2x2)[74/100] /nuc ish(MANB2x2,CRXx2)[66/100]

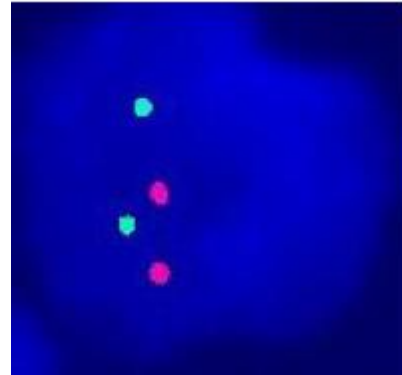
### INTERPRETATION

**FISH test is negative for 1p36/19q13 Co-deletion.**  
**The observed ratio for 1p36/1q25 is 1.0 and for 19q13/19p13 is 1.0**

### Detailed Report



A representative image showing 2 spectrum green and 2 spectrum orange signals of 1q25 and 1p36 loci respectively.



A representative image showing 2 spectrum green and 2 spectrum orange signals of 19p13 and 19q13 loci respectively.

Spectrum Green (G)	1q25/TP73, 19p13/MANB2	Spectrum Orange (O)	1p36/ABL2, 19q13/CRX	
<b>Loci Analyzed</b>	<b>Ratio Calculation</b>	<b>Cut off Ratio</b>	<b>Observed Ratio</b>	<b>Result</b>
1p36/1q25	Total Orange Signals	Negative if >0.9	1.0	Negative
	Total Green Signals	Positive if ≤0.9		
19q13/19p13	Total Orange Signals	Negative if >0.9	1.0	Negative
	Total Green Signals	Positive if ≤0.9		

## Testing methodology

FISH is a molecular cytogenetic technique used to detect the presence or absence and location of specific gene sequences. FISH involves co-denaturation and hybridization of fluorescent labelled specific DNA probes to target DNA sequence in the interphase cells. Paraffin- embedded tissue specimen should be deparaffinized and pre-treated to enhance tissue permeability. The excess unbound probe is removed during post hybridization washes. The sample is stained with DAPI (4',6-Diamidino-2-phenylindole) a counter-stain to demarcate the nuclei. Each fluorescent labelled probe that hybridizes to region of interest in interphase cells are visualized as signal using suitable optical filters under Epi fluorescent microscope. 100 interphase cells are counted for each probe. Interpretation of results is done based on the signal patterns observed and the results of the test are reported. Appropriate controls are run in each batch along with the patient samples.

Test was performed using Vysis LSI 1p36/1q25 and 19q13/19p13 probe. In a normal cell hybridized with the LSI 1p36 (Spectrum Orange)/1q25 (Spectrum Green) probe, two orange and two green signals will be observed indicative of two intact copies of chromosome 1. In an abnormal cell with a deletion in the 1p36 region fewer than two orange signals will be observed. In a normal cell hybridized with the LSI 19q13 (Spectrum Orange)/19p13 (Spectrum Green) probe, two orange and two green signals will be observed indicative of two intact copies of chromosome 19. In an abnormal cell with a deletion in the 19q13 region fewer than two orange signals will be observed.

## Comments

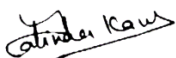
Among the various candidate biomarkers in gliomas, 1p/19q co-deletion in oligodendroglioma probably constitutes the best characterized and most extensively investigated marker up to date. The 1p/19q co-deletion is a characteristic and early molecular genetic event in oligodendroglial tumors, and 1p/19q co-deleted tumors are associated with a better prognosis and enhanced response to therapy. The presence of 1p deletion and combined 1p and 19q deletion supports a diagnosis of oligodendroglioma which may indicate that the patient may respond to chemotherapy and radiation therapy. The solitary loss of 19q is not predictive to prolonged survival or response to enhanced chemotherapy. A negative result does not exclude a diagnosis of oligodendroglioma or high-grade astrocytoma.

## References

1. Vysis 1p36/1q25 and 19q13/19p13 probe set kit insert.
2. A. Woehrer, Sander, C. et.al. "FISH-based detection of 1p19q co-deletion in oligodendroglial tumors: procedures and protocols for neuropathological practice – a publication under the auspices of the Research Committee of the European Confederation of Neuropathological Societies (Euro-CNS)" Clinical Neuropathology, Vol. 30 – No. 2/2011 (47-55)

## Disclaimers

1. This test was developed and its performance characteristics determined by reference laboratory.
2. The finding of this test must be correlated with clinical diagnosis.
3. Genetic changes other than those assayed cannot be ruled out on the basis of this testing.



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