

## Fluorescence in-situ Hybridization (FISH)

### t(8;21) or LSI ETO / AML1 Translocation Assay

**Specimen** :  
**Clinical Indication** :  
**Result** :  
:  
**Interpretation** :

Interphase nuclei analyzed	Normal nuclei 2 Orange 2 Green signals	Abnormal nuclei 1 Orange 1 Green 2 Yellow signals
200		

Cut off for the normal individual is 3%

## PHOTO

**Method:** FISH analysis performed on 200 Interphase nuclei.

**Probe :** LSI RUNX1T1(ETO)(8q21.3) Spectrum Orange / LSI RUNX1(21q22) Spectrum Green.

**Comments:** The translocation abnormality is found in approximately 5–10% of all AML cases and 10–22% of AML cases with maturation corresponding to the FAB class M2. t(8;21) is associated with a favorable prognosis. The incidence of AML with favorable cytogenetic abnormalities decreases with age as is seen with t(8;21) that is most common in children/younger patients (10-20%) and uncommon above 60 years of age. The translocation results in fusion of two genes, resulting in a fusion protein of one N-terminal domain from the AML1 gene and four C-terminal domains from the ETO gene. This protein has multiple effects on the regulation of the proliferation, the differentiation, and the viability of leukemic cells. Hence detection of t(8;21) is essential for optimal handling of these patients as it has both diagnostic, prognostic, and therapeutic implications.