

***BCL-2/JH* Translocation t(14;18) Major Breakpoint Detection by Real-Time PCR and Capillary Gel Electrophoresis**

Clinical Indication and Relevance

- Aids in the diagnosis of B-cell non-Hodgkin lymphoma.
- May be used to monitor minimal residual disease following therapy.

Methodology

DNA is isolated and amplified with specific primers targeting the *BCL2/JH* major breakpoint (MBR) using real-time PCR. PCR product is then sized by capillary gel electrophoresis. Results are reported as positive or negative for *BCL2* MBR. The assay's analytic detection limit is 1 tumor cell in 1000 normal cells.

Turn-around Time

Five to seven working days

Sample Requirements

Collect

- Peripheral blood (PB): 3-5 mL, in purple top (sodium EDTA) tube.
- Bone marrow (BM): 1-3 mL, drawn into a syringe containing anticoagulant and then delivered in purple top tube.
- Fresh or frozen tissue: fresh tissue should be obtained in a sterile manner, and a minimum 3 mm³ of tissue is required. Fresh tissue should be placed in culture medium for transport or snap frozen (see transport section below).
- Formalin-fixed, paraffin-embedded (FFPE) tissue blocks: send tissue block to the lab, or contact lab for instructions regarding cutting paraffin sections for molecular studies.

Transport

- PB or BM sample, deliver immediately at 2-8°C (wet ice or cold packs). Do not freeze.
- Tissue samples should be delivered at room temperature in RPMI culture medium to the lab within 3 hours of collection, or snap frozen in liquid nitrogen at -70°C and packed in dry ice for delivery. Please do not allow frozen tissues to thaw.
- Formalin-fixed paraffin-embedded tissue blocks can be delivered at room temperature.

Stability

PB or BM samples: ambient - 1 hour; refrigerated - 48 hours.

Unacceptable Samples

- Serum or plasma; frozen PB or BM; clotted blood; severely hemolyzed samples
- Paraffin tissue fixed in Zenker's, B5, or Bouin's fixatives
- Bone marrow biopsy decalcified in formic acid

CPT Code(s)

81401: Molecular Pathology Procedure Level 2

G0452-26: Molecular pathology procedure; physician interpretation and report

References

1. Estalilla OC et al. Mod Pathol.13:661, 2000
2. Luthra R et al. Am J Pathol. 153:63, 1998
3. Sanchez-Vega B et al. J Mol Diagn. 4:223, 2002
4. Schmitt C et al. Leuk Res. 30:745, 2006