

TEST ID: NR4A3

NR4A3 (9Q22.33) REARRANGEMENT, FISH, TISSUE

USEFUL FOR

Identifying *NR4A3* gene rearrangements in patients with extraskeletal myxoid chondrosarcoma (EMC)

TESTING ALGORITHM

This test does not include a pathology consult. If a pathology consultation is requested, [PATHC / Pathology Consultation](#) should be ordered and the appropriate FISH test will be ordered and performed at an additional charge.

This test includes a charge for application of the first probe set (2 FISH probes) and professional interpretation of results.

Additional charges will be incurred for all reflex probes performed. Analysis charges will be incurred based on the number of cells analyzed per probe set. If no cells are available for analysis, no analysis charges will be incurred.

CLINICAL INFORMATION

The gene *NR4A3* is often altered in patients with extraskeletal myxoid chondrosarcomas (EMC). Rearrangement of the *NR4A3* gene region may be involved with up to 4 partner genes as a pathway to EMC. FISH analysis allows for the detection of rearrangement of the *NR4A3* gene region.

INTERPRETATION

A positive result with the *NR4A3* probe is detected when the percent of cells with an abnormality exceeds the normal cutoff for the probe set. A positive result of *NR4A3* suggests inactivating structural alterations of the *NR4A3* gene region at 9q22.33. A negative result suggests no structural alterations of the locus.

REFERENCE VALUES

An interpretative report will be provided.

ANALYTIC TIME

7 days

SPECIMEN REQUIRED

Submit only 1 of the following specimens:

Type

Tissue

Container/Tube

Formalin-fixed, paraffin-embedded tumor tissue block

Type

Slides

Container/Tube

4 Consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

SUPPORTIVE DATA

FISH analysis was performed on 27 formalin-fixed paraffin-embedded specimens including 21 extraskeletal myxoid chondrosarcoma (EMC) tissue samples, 6 non-EMC sarcomas, and 25 noncancerous control specimens. The normal controls were used to generate the normal cutoff values. Structural alterations resulting in the rearrangement of the *NR4A3* gene region were identified and results correlated with pathology findings.

CLINICAL REFERENCE

Benini S, Cocchi S, Gamberi G, Magagnoli G, et al: Diagnostic utility of molecular investigation in extraskeletal myxoid chondrosarcoma. *J Mol Diagn* 2014 May;16(3):314-323