Test Definition: 23FBG

Fibroblast Growth Factor-23 (FGF23), In Situ Hybridization

Overview

Useful For
Assessing fibroblast growth factor-23 (FGF23) expression

Method Name
In Situ Hybridization (ISH)

NY State Available
Yes

Specimen

Specimen Type
Special

Additional Testing Requirements
If additional interpretation or analysis is needed, request PATHC / Pathology Consultation along with this test.

Shipping Instructions
Attach the green "Attention Pathology" address label (T498) to the outside of the transport container before putting into the courier mailer.

Necessary Information
A pathology/diagnostic report and a brief history are required.

Specimen Required
Specimen Type: Tissue
Supplies: Pathology Packaging Kit (T554)
Submit:
Formalin-fixed, paraffin-embedded tissue block
OR
5 Unstained, positively charged glass slides; sections 4-microns thick
Additional Information: Broken or cracked unstained slides will be rejected. Stained slides that were broken and repaired (ie, double mounted) at the client site will not be rejected, as, in most cases, they can still be reviewed under the microscope. However, due to the double mounting, digital scanning cannot be performed.

Forms
If not ordering electronically, complete, print, and send a Immunohistochemical (IHC)/In Situ Hybridization (ISH) Stains Request (T763) with the specimen.

Reject Due To

Wet/frozen tissue	Reject
Cytology smears	Reject
Nonformalin fixed tissue	Reject
Nonparaffin embedded tissue	Reject
Noncharged slides	Reject
ProbeOn slides	Reject
Snowcoat slides	Reject
Broken or cracked unstained slides	Reject
Broken or cracked stained slides that cannot be repaired	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Special	Ambient (preferred)		
	Refrigerated		

Clinical & Interpretive

Clinical Information

Fibroblast growth factor-23 (FGF23) is a phosphaturic hormone that acts on the proximal renal tubules to block phosphate reuptake. Production of FGF23 by a particular mesenchymal tumor, phosphaturic mesenchymal tumor, is responsible for the great majority of cases of tumor-induced osteomalacia.

Interpretation

This test, when not accompanied by a pathology consultation request, will be reported as either positive or negative. If additional interpretation or analysis is needed, request PATHC / Pathology Consultation along with this test.

Cautions

Age of a cut paraffin section can affect immunoreactivity. Stability thresholds vary widely among published literature and are antigen dependent. Best practice is for paraffin sections to be cut within 6 weeks.

The charge of glass slides can be affected by environmental factors and subsequently may alter slide staining. Sending unsuitable glass slides can result in inconsistent staining due to poor slide surface chemistry.

Best practices for storage of positively charged slides:
-Minimize time slides are stored after being unpackaged
-Limit exposure to high humidity and heat

Broken or cracked unstained slides are not compatible with the instrumentation used in our performing laboratories and will be rejected. Additional material may be requested.

Attempts will be made to repair broken or cracked stained slides; however, if they are unable to be repaired (ie, shattered in transit), they will be rejected and discarded due to safety concerns.

Clinical Reference

1. Carter JM, Caron BL, Dogan A, Folpe AL. A novel chromogenic in situ hybridization assay for FGF23 mRNA in phosphaturic mesenchymal tumors. AM J Surg Pathol. 2015;39:(1)75-83
2. Bhattacharyya N, Chong WH, Gafni RI, Collins MT. Fibroblast growth factor 23: State of the field and future directions. Trends Endocrinol Metab. 2012;23(12):610-618
3. Graham RP, Hodge JC, Folpe AL, et al. A cytogenetic analysis of 2 cases of phosphaturic mesenchymal tumor of mixed connective tissue type. Hum Pathol. 2012;43(8):1334-1338
4. Graham R, Krishnamurthy S, Oliveira A, Inwards C, Folpe AL. Frequent expression of fibroblast growth factor-23 (FGF23) mRNA in aneurysmal bone cysts and chondromyxoid fibromas. J Clin Pathol. 2012;65(10):907-909
5. Bahrami A, Weiss SW, Montgomery E, et al. RT-PCR analysis for FGF23 using paraffin sections in the diagnosis of phosphaturic mesenchymal tumors with and without known tumor induced osteomalacia. Am J Surg Pathol. 2009;33(9):1348-1354
6. Folpe AL, Fanburg-Smith JC, Billings SD, et al. Most osteomalacia-associated mesenchymal tumors are a single histopathologic entity-an analysis of 32 cases and a comprehensive review of the literature. Am J Surg Pathol. 2004;28(1):1-30

Performance

Method Description

In situ hybridization on sections of paraffin-embedded tissue.(Unpublished Mayo method)

PDF Report

No

Day(s) Performed

Monday through Friday

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Report Available
5 to 8 days

Specimen Retention Time
Until staining is complete

Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Main Campus

Fees & Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information
88365-Primary

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
23FBG	Fibroblast Growth Factor-23, ISH	104259-7

Result ID	Test Result Name	Result LOINC® Value
620250	Interpretation	50595-8
620251	Participated in the Interpretation	No LOINC Needed
620252	Report electronically signed by	19139-5
620253	Material Received	81178-6
620254	Disclaimer	62364-5
620255	Case Number	80398-1