Test Definition: MESOP

Mesothelioma Panel (WT1/KRT5/TTF1/pCEA)
Immunostain, Technical Component Only

Overview

Useful For

Differentiation of mesothelioma and non-small cell lung cancer

Additional Tests

Test Id	Reporting Name	Available Separately	Always Performed
IHMTO	IHC Multiplex, Tech Only	No	Yes

Testing Algorithm

For the technical component only immunohistochemical (IHC) multiplex stain performed, the appropriate bill-only test ID will be reflexed and charged (IHMTO).

Method Name

Immunohistochemistry (IHC)

NY State Available

Yes

Specimen

Specimen Type

TECHONLY

Ordering Guidance

This test includes only technical performance of the stain (no pathologist interpretation is performed). If diagnostic consultation by a pathologist is required order PATHC / Pathology Consultation.

Shipping Instructions

Attach the green pathology address label and the pink Immunostain Technical Only label included in the kit to the outside of the transport container.

Specimen Required

Specimen Type: Tissue
Supplies: Immunostain Technical Only Envelope (T693)
Container/Tube: Immunostain Technical Only Envelope
Preferred:
-Formalin-fixed, paraffin-embedded tissue block
OR

-2 Unstained, positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick
Acceptable: None

Digital Image Access

1. Information on accessing digital images of immunohistochemical (IHC) stains and the manual requisition form can be accessed through this website: https://news.mayocliniclabs.com/ihc-stains/
2. Clients ordering stains using a manual requisition form will not have access to digital images.
3. Clients wishing to access digital images must place the order for IHC stains electronically. Information regarding digital imaging can be accessed through this website: https://news.mayocliniclabs.com/ihc-stains/#FAQ

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 Cytology smears Nonformalin fixed tissue Nonparaffin embedded tissue Noncharged slides ProbeOn slides Snowcoat slides	Reject

Specimen Stability Information

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

Clinical & Interpretive

Clinical Information

The Mesothelioma Panel assay consists of 4 antibodies WT-1, KRT5, TTF1 (clone SPT24) and P-CEA. This multiplex immunohistochemistry assay is used in the differential diagnosis of mesothelioma and non-small cell lung cancer (NSCLC). WT-1 (nuclear; detected with green chromogen) and KRT5 (cytoplasmic; detected with purple chromogen) are

biomarkers expressed in mesothelioma. TTF1 (nuclear; detected with red chromogen) and P-CEA (membranous/cytoplasmic; detected with teal chromogen) are biomarkers expressed in NSCLC.

Interpretation

This test does not include pathologist interpretation only technical performance of the stain. If interpretation is required order PATHC / Pathology Consultation for a full diagnostic evaluation or second opinion of the case.

The positive and negative controls are verified as showing appropriate immunoreactivity and documentation is retained at Mayo Clinic Rochester. If a control tissue is not included on the slide, a scanned image of the relevant quality control tissue is available upon request. Contact 855-516-8404.

Interpretation of this test should be performed in the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

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.

Avoid prolonged exposure of slides to light as this can cause the chromogens to fade over time. This fading can be mitigated by storing your slides in the dark when not being observed under the microscope.

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
-Minimize exposure to plastics

Clinical Reference

1. Roberts EA, Morrison LE, Behman LJ, Draganova-Tacheva R, O'Neill R, Solomides CC. Chromogenic immunohistochemical quadruplex provides accurate diagnostic differentiation of non-small cell lung cancer. Ann Diagn Pathol 2020;45:151454
2. Hofman P, Badoual C, Hernderson F, et al. Multiplexed Immunohistochemistry for Molecular and Immune Profiling in Lung Cancer – Just About Ready for Prime-Time? Cancers(Basel) 2019;11(3): 283
3. Koyi H, Brandén E, Kasim I, Wilander. Co-localisation of Glandular and Squamous Cell Markers in Non-small Cell Lung Cancer. Anticancer Res. 2018;38(6):3341-3346. doi: 10.21873/anticanres.12600
4. Kushitani K, Amatya VJ, Okada Y, et al. Utility and pitfalls of immunohistochemistry in the differential diagnosis between epithelioid mesothelioma and poorly differentiated lung squamous cell carcinoma. Histopathology. 2017;70(3):375-384. doi: 10.1111/his.13073
5. Argon A, Nart D, Veral A. The value of cytokeratin 5/6, p63 and thyroid transcription factor-1 in adenocarcinoma, squamous cell carcinoma and non-small-cell lung cancer of the lung. Turk Patoloji Derg. 2015;31(2):81-8. doi: 10.5146/tjpath.2015.01302
6. Roberts EA, Morrison LE, Behman LJ, et al. Chromogenic immunohistochemical quadruplex provides accurate diagnostic differentiation of non-small cell lung cancer. Ann Diagn Pathol. 2020;45:151454

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Performance

Method Description
Immunohistochemistry on sections of paraffin-embedded tissue.(Unpublished Mayo method)

PDF Report
No

Day(s) Performed
Monday through Friday

Report Available
1 to 3 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 has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
88344-TC

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
MESOP	WT1/KRT5/TTF1/pCEA IHC, Tech Only	No LOINC Needed

MAYO CLINIC LABORATORIES

Test Definition: MESOP

Mesothelioma Panel (WT1/KRT5/TTF1/pCEA)
Immunostain, Technical Component Only

Result ID	Test Result Name	Result LOINC® Value
620228	WT1/KRT5/TTF1/pCEA IHC, Tech Only	No LOINC Needed