

Overview

Useful For

Diagnosis of small cell lung carcinoma (SCLC), large cell neuroendocrine carcinoma (LCNEC), amongst other tumors

Method Name

Immunohistochemistry (IHC)

NY State Available

Yes

Specimen

Specimen Type

Special

Shipping Instructions

Attach the green "Attention Pathology" address label (T498) and the pink Immunostain Technical Only label included in the kit to the outside of the transport container.

Necessary Information

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

Specimen Required

A minimum of 100 tumors cells are required for interpretation of DLL3 expression.

Specimen Type: Tissue

Supplies:

- Pathology Packaging Kit (T554)
- Immunostain Technical Only Envelope (T693)

Container/Tube: Immunostain Technical Only Envelope

Collection Instructions: Formalin-fixed, paraffin-embedded tissue block; or 3 unstained glass, "positively charged" slides with 4-microns, formalin-fixed, paraffin-embedded tissue

Additional Information: One slide will be stained with hematoxylin and eosin and returned.

Forms

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

Test Definition: DLL3

Delta-Like 3 Protein (SP347),
Semi-Quantitative Immunohistochemistry,
Manual, Tissue

Reject Due To

Wet/frozen tissue Cytology smears Nonformalin fixed tissue Nonparaffin embedded tissue Noncharged slides ProbeOn slides Snowcoat slides	Reject
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Specimen Stability Information

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

Clinical & Interpretive

Clinical Information

Delta-like 3 protein (DLL3) is an atypical Notch ligand induced by the neuroendocrine transcription factor, ASCL-1. DLL3 is expressed on the cell membrane and in the cytoplasm of tumor cells.

Reference Values

An interpretive report will be provided.

Interpretation

Positivity for delta-like 3 protein is determined by immunoreactivity of any tumor cells within a specimen with an intensity ranging from 1 to 3+.

Cautions

At least 100 tumor cells must be present for interpretation. If criterion is not met, DLL3 expression cannot be evaluated following testing.

This test has been validated for non-decalcified paraffin embedded tissue specimens fixed in 10% neutral buffered formalin. This assay has not been validated on tissues subjected to the decalcification process and/or use of alternative

fixatives for bone/bone marrow specimens or cell blocks.

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.

Clinical Reference

1. Saunders LR, Bankovich AJ, Anderson WC, et al. A DLL3-targeted antibody-drug conjugate eradicates high-grade pulmonary neuroendocrine tumor-initiating cells in vivo. Sci Transl Med. 2015;7(302):302ra136
2. Xie H, Boland JM, Maleszewski JJ, et al. Expression of delta-like protein 3 is reproducibly present in a subset of small cell lung carcinomas and pulmonary carcinoid tumors. Lung Cancer. 2019;135:73-79. doi:10.1016/j.lungcan.2019.07.016
3. Xie H, Kaye FJ, Isse K, et al. Delta-like protein 3 expression and targeting in merkel cell carcinoma. Oncologist. 2020;10:810-817. doi:10.1634/theoncologist.2019-0877
4. Magaki S, Hojat SA, Wei B, So A, Yong WH. An introduction to the performance of immunohistochemistry. Methods Mol Biol. 2019;1897:289-298. doi:10.1007/978-1-4939-8935-5_25

Performance

Method Description

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

PDF Report

No

Day(s) Performed

Monday through Friday

Report Available

5 to 7 days

Specimen Retention Time

Until reported

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.

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Manual, Tissue

- 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

88360

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
DLL3	DLL3(SP347)Semi-Quant IHC,Manual	In Process

Result ID	Test Result Name	Result LOINC® Value
603333	Interpretation	59465-5
603334	Participated in the Interpretation	No LOINC Needed
603335	Report electronically signed by	19139-5
603336	Material Received	81178-6
603337	Disclaimer	62364-5
603338	Case Number	80398-1