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## 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 pathology address 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

**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.

### Reject Due To

Wet/frozen tissue                      Reject  
 Cytology smears  
 Nonformalin fixed tissue  
 Nonparaffin embedded tissue  
 Noncharged slides  
 ProbeOn slides

### 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.

#### Interpretation

Positivity for this test will require 50% or more of the tumor cells within a specimen to express delta-like 3 protein with an intensity ranging from 1 to 3+.

#### 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 fresh.

#### 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 Aug;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 Sep;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

Sep 1;10:810-817. doi: 10.1634/theoncologist.2019-0877

**Performance**

**Method Description**

Immunohistochemistry on sections of paraffin-embedded tissue.(Unpublished Mayo method)

**PDF Report**

No

**Specimen Retention Time**

Until reported

**Performing Laboratory Location**

Rochester

**Fees & Codes**

**Test Classification**

This test was developed, and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test 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	Reporting Name	LOINC®
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

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603338	Case Number	80398-1
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