

Overview

Useful For

Diagnosing ovarian small cell carcinoma of hypercalcemic type (SCCOHT)

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
IHTOI	IHC Initial, Tech Only	No	No
IHTOA	IHC Additional, Tech Only	No	No

Testing Algorithm

For the initial technical component only immunohistochemical (IHC) stain performed, the appropriate bill-only test ID will be reflexed and charged (IHTOI). For each additional technical component only IHC stain performed, an additional bill-only test ID will be reflexed and charged (IHTOA).

Method Name

Immunohistochemistry

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

Supplies: Immunostain Technical Only Envelope (T693)

Specimen Type: Tissue

Container/Tube: Immunostain Technical Only Envelope

Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick

Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

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	Reject
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Specimen Stability Information

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

Clinical & Interpretive

Clinical Information

BRG1 (SMARCA4) is a member of the switch/sucrose non-fermentable (SWI/SNF) chromatin remodeling complex. Biallelic mutations in *BRG1* (*SMARCA4*) have been reported in ovarian small cell carcinoma of hypercalcemic type (SCCOHT), amongst other tumors. Tumors with these mutations demonstrate a loss of BRG1 protein expression in the nucleus. SCCOHT is difficult to diagnose and loss of BRG1 expression can help in differentiating SCCOHT from its mimics including other primary or metastatic tumors of the ovaries.

Interpretation

This test does not include pathologist interpretation; only technical performance of the stain is performed. If an 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

Loss of BRG1 expression as determined by immunohistochemistry is not able to differentiate between germline and somatic mutations.

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. Clarke BA, Witkowski L, Ton Nu TN, et al: Loss of SMARCA4 \(BRG1\) Protein Expression by Immunohistochemistry in Small Cell Carcinoma of the Ovary, Hypercalcemic Type Distinguishes these Tumors from their Mimics. *Histopathology* 2016 Apr 21](#)
2. Conlon N, Silva A, Guerra E, et al: Loss of SMARCA4 Expression Is Both Sensitive and Specific for the Diagnosis of Small Cell Carcinoma of Ovary, Hypercalcemic Type. *Am J Pathol* 2016;40:395-403
3. Karanian-Philippe M, Velasco V, Longy M, et al: SMARCA4 (BRG1) Loss of Expression Is a Useful Marker for the Diagnosis of Ovarian Small Cell Carcinoma of the Hypercalcemic Type (Ovarian Rhabdoid Tumor). *Am J Surg Pathol* 2015;39:1197-1205
4. Ramos P, Karnezls A, Craig D, et al: Small Cell Carcinoma of the Ovary, Hypercalcemic Type, Displays Frequent Inactivating Germline and Somatic Mutations in SMARCA4. *Nat Genet* 2014;46(5):427-430

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

Rochester

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

88342-TC, primary

88341-TC, if additional IHC

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
BRG1	BRG1 (SMARCA4) IHC, Tech Only	Order only;no result

Result ID	Test Result Name	Result LOINC® Value
71541	BRG1 (SMARCA4) IHC, Tech Only	Bill only; no result