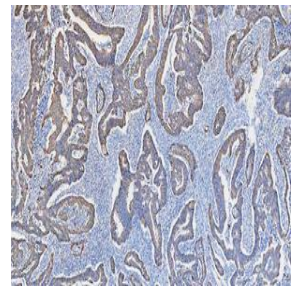
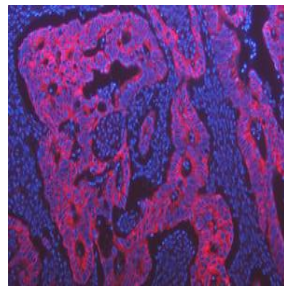
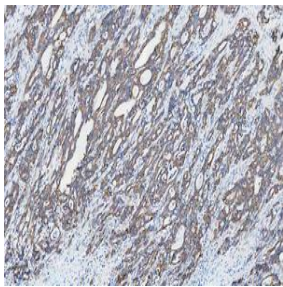
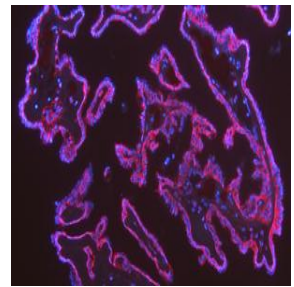
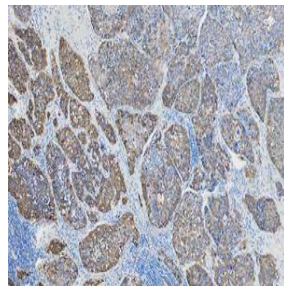
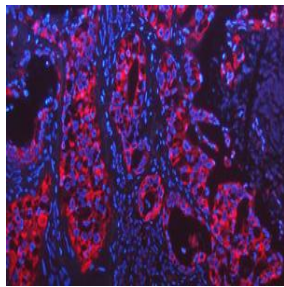


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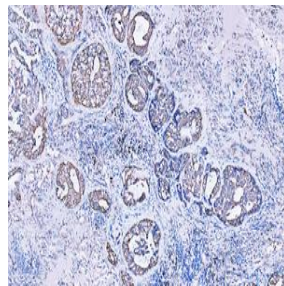
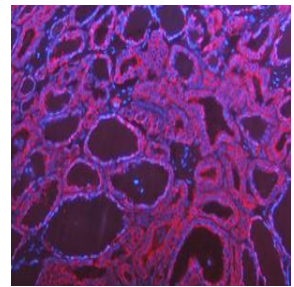


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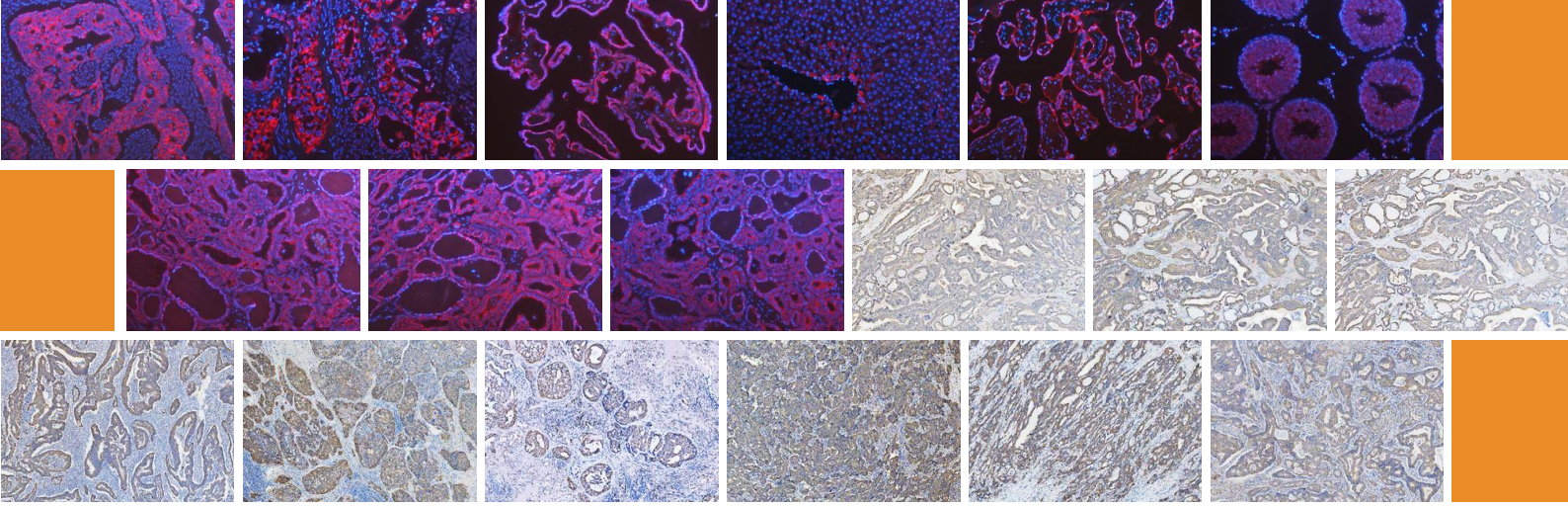
R



\*All pictures displayed are experimental results of the product itself.



**KRT18 antibody,  
optimized for IHC and  
immunofluorescence**



# KRT18 antibody, optimized for IHC and immunofluorescence

## Summary

Boster Bio's KRT18 antibody (A01357-1) is a highly specific and sensitive tool optimized for immunohistochemistry (IHC) and immunofluorescence (IF). This antibody is validated across multiple normal and cancerous tissues and demonstrates consistent staining patterns verified by orthogonal RNA-seq data and comparison with other established antibodies.

This antibody is part of Boster Bio's PicoLumine™ Series, featuring hundreds of protein biomarkers optimized for immunohistochemistry, immunocytochemistry, and immunofluorescence. All antibodies in this product line have gone through the same level of validation as shown in this report. This product line is guaranteed under Boster Bio's **PicoLumine Guarantee**, that the antibody will work under the recommended condition on the indicated tissues and cell lines, or your money back.

## Highlights

- **Specificity and Sensitivity:** High reproducibility and signal-to-noise ratio.
- **Optimized Protocols:** Reliable protocols for both IHC and IF.
- **PicoLumine Guarantee:** Guaranteed performance or your money back.

## Antibody evaluation

KRT18 is an important part of the cytoskeleton, and it is also involved in intracellular signaling processes, interacting with a variety of signaling molecules, and regulating cell proliferation, differentiation, apoptosis and other life activities.

Due to the changes in the expression of KRT18 in a variety of diseases, it may be a potential marker for disease diagnosis. The KRT18(A01357-1) results were excellent in immunohistochemistry and immunofluorescence assays, and the antibody evaluation 5 out of 5 stars.

# Antibody information

**Antibody Name:** Cytokeratin 18/KRT18 Antibody Picoband®

**Host Species:** Rabbit

**Isotype:** IgG (Polyclonal)

**Catalog Number:** A01357-1

**Supplier:** [Boster Bio](#)

## Validation Findings Summary:

The KRT18 antibody demonstrated high specificity, sensitivity, and reproducibility in immunofluorescence assays. The optimized conditions provide reliable detection of KRT18 in pathologically relevant cell lines and tissues. Researchers can confidently use this antibody for KRT18 immunofluorescence studies, contributing to accurate and meaningful experimental outcomes.

# KRT18 Introduction

## Introduction and origin

The KRT18 protein, also known as keratin 18, is an important intermediate filament protein that plays a key role in human cells. Keratin 18, mapped to 12q13.13, is a type I cytokeratin. It is, together with its filament partner keratin 8, perhaps the most commonly found products of the intermediate filament gene family. They are expressed in single layer epithelial tissues of the body. Mutations in this gene have been linked to cryptogenic cirrhosis. Two transcript variants encoding the same protein have been found for this gene. KRT18 is composed of specific amino acid sequences that determine the structure and function of the KRT18 protein.

## Function and effect

KRT18 protein has a typical intermediate filament-protein structure, including a central  $\alpha$ -helix region and a non-helix region at both ends. These structural features allow KRT18 to form stable fiber networks with other intermediate filament proteins. KRT18 is an important component of the cytoskeleton, which, along with other keratins, forms a complex network of fibers that provide structural support and stability to cells. KRT18 is also involved in intracellular signaling processes, interacts with a variety of signaling molecules, and regulates cell proliferation, differentiation, apoptosis and other life activities. KRT18 exerts a protective effect against cell rupture or apoptosis when cells are damaged or stressed.

## Clinical significance

KRT18 may also play an important role in some cancers. For example, in cancers such as breast, lung, and prostate cancers, the expression levels of KRT18 may change and are associated with cancer progression and prognosis. In liver diseases such as hepatitis, cirrhosis, and liver cancer, the expression level of KRT18 usually changes. These changes may reflect the damage and repair process of liver cells. Due to the changes in the expression of KRT18 in a variety of diseases, it may be a potential marker for disease diagnosis. By measuring the level of KRT18 expression, doctors can tell if a person has a disease or assess the severity of the disease.

## Expected Staining Patterns

### Cellular Localization:

KRT18 is the protein predicted to localized to the cytosol (supported).

[Location →](#)

### Tissues with high expression of KRT18 (RNA):

KRT18 is known to cytoplasmic expression mainly in glandular epithelium.

[Tissues expression →](#)

### Cell lines with high expression of KRT18 :

According to data from ProteinAtlas.com, KRT18 is known to be detected in many cell lines.

[Cell lines expression →](#)

## Antibody validation experiment design

### Selection of validation tissues and cell lines

The tissue-positive controls in the following experiments are primarily based on suggestions from ProteinAtlas.com.

#### Positive tissues for IHC:

1. Human thyroid cancer(used for optimization with 3 concentrations of primary antibody)

#### Positive tissues for IF:

1. Human thyroid cancer(used for optimization with 3 concentrations of primary antibody)

#### Positive tissues for IHC (experimental verification):

1. Human colon cancer, human lung cancer, human ovarian cancer, human pancreas cancer, human liver cancer, human stomach cancer

#### Positive tissues for IF (experimental verification):

1. Human placenta, rat liver, rat testis, human colon cancer, human ovarian cancer, human lung cancer

*\*optimization Method: we have tested 3 concentrations of the primary antibody on the selected tissue(s) to assess the best experiment conditions for immunohistochemistry and immunofluorescence. The conditions that produced the best signal with a low background were selected as the recommended experiment conditions.*

## Reagents used in the experiment

1. Anti-KRT18 Antibody (A01357-1), Concentrations tested: 1µg/mL, 5µg/mL, 25µg/mL.
2. EDTA Buffer (pH 8.0, Epitope Retrieval Solution): Used for heat-mediated antigen retrieval.
3. Inactivation: 3% H<sub>2</sub>O<sub>2</sub> for 10 min.
4. Blocking Solution: normal goat serum.
5. Secondary Antibody (IF): DyLight 594 Conjugated AffiniPure Goat Anti-rabbit IgG (H+L) (BA1142), dilution: 1:100, Incubated for 30 minutes at 37°C.
6. Secondary Antibody (IHC-P): HRP-AffiniPure Goat Anti-Rabbit IgG, dilution: 1:500, Incubated for 30 minutes at 37°C.
7. Staining (IHC-P): Add a suitable amount of DAB reagent to the samples, Observe under the microscope, and control the color development time.
8. Counterstain: DAPI (IF, AR1176); hematoxylin (IHC-P).
9. Mounting Medium: anti-fade mounting medium.

## Experiment protocols

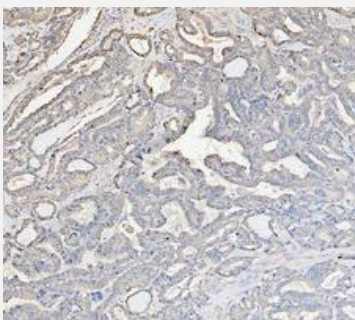
### Immunohistochemistry:

Protocol reference

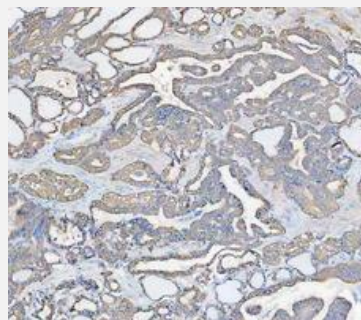
[Click to view](#)

### IHC Optimization

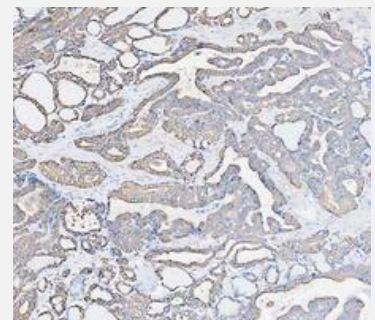
Human thyroid cancer tissue embedded in FFPE is used to optimize the concentration and incubation time for the antibody. 3 concentrations of rabbit anti-KRT18 Antibody (A01357-1) were used to incubate. 1µg/mL, 5µg/mL, 25µg/mL overnight at 4°C. The results are as follows:



**Antigen Retrieval:** Heat  
**Primary ab:** 25µg/mL



**Antigen Retrieval:** Heat  
**Primary ab:** 5µg/mL



**Antigen Retrieval:** Heat  
**Primary ab:** 1µg/mL

**Incubation:** 4°C overnight

**Secondary:** BA3894

**Imaging:** Brightfield

[View Original Image →](#)

**Incubation:** 4°C overnight

**Secondary:** BA3894

**Imaging:** Brightfield

[View Original Image →](#)

**Incubation:** 4°C overnight

**Secondary:** BA3894

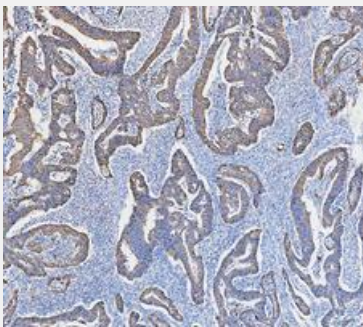
**Imaging:** Brightfield

[View Original Image →](#)

An in-house certified pathologist reviewed the result images and recommended the medium condition (5µg/mL) be used for immunofluorescence. This condition is used to perform immunohistochemistry on other relevant normal and cancerous tissues to ensure the antibody produces expected staining patterns.

## IHC Additional validations:

### Cancerous tissues

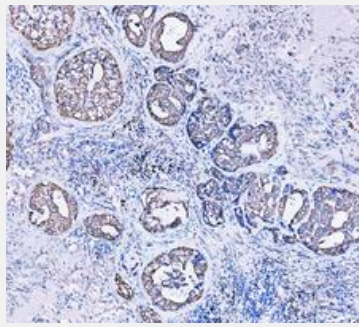


**Human colon cancer**

**Expected:** high level

**Observed:** high level

[View Original Image →](#)

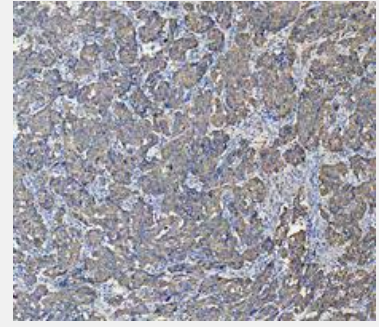


**Human lung cancer**

**Expected:** high level

**Observed:** high level

[View Original Image →](#)

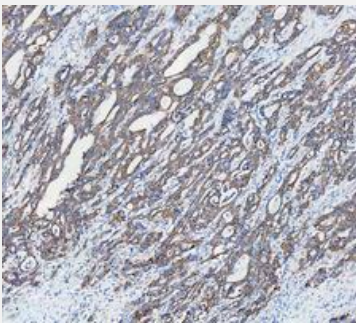


**Human ovarian cancer**

**Expected:** high level

**Observed:** high level

[View Original Image →](#)

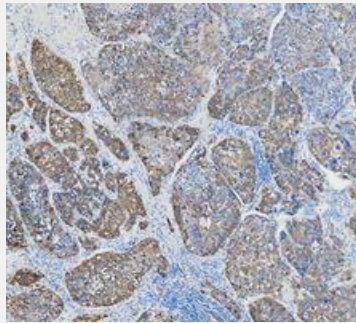


**Human pancreas cancer**

**Expected:** high level

**Observed:** high level

[View Original Image →](#)

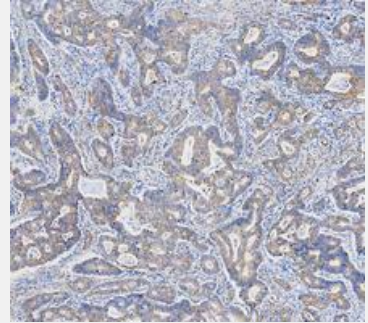


**Human liver cancer**

**Expected:** high level

**Observed:** high level

[View Original Image →](#)



**Human stomach cancer**

**Expected:** high level

**Observed:** high level

[View Original Image →](#)

Tissue staining expectation reference

[Click to view](#)

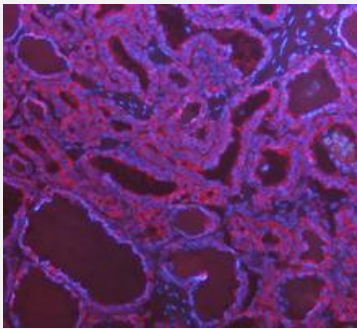
## IHC scoring

5/5, Supported–Orthogonal, based on the following criteria:

1. IHC stains in the selected tissues are consistent with RNA level data.
2. IHC staining patterns in selected tissues match the expected staining patterns of this biomarker as shown in similar well-established antibodies.
3. IHC staining subcellular localization is consistent with the literature.

## IF Optimization

The human thyroid cancer is used to optimize the concentration and incubation time for the antibody. 3 concentrations of rabbit anti-KRT18 (A01357-1) were used to incubate. 1µg/mL, 5µg/mL, 25µg/mL overnight at 4°C. The results are as follows:



### Human thyroid cancer

**Primary ab:** 25µg/mL

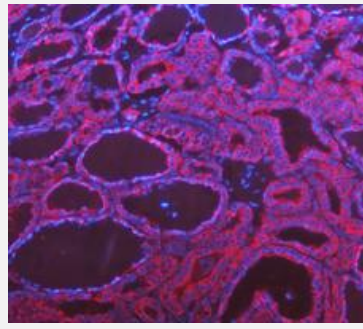
**Incubation:** 4°C overnight

**Secondary:** BA1142

**Imaging:** Fluorescent

Microscopy

[View Original Image →](#)



### Human thyroid cancer

**Primary ab:** 5µg/mL

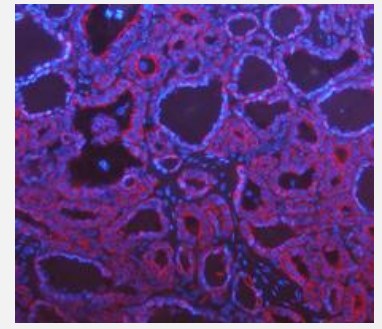
**Incubation:** 4°C overnight

**Secondary:** BA1142

**Imaging:** Fluorescent

Microscopy

[View Original Image →](#)



### Human thyroid cancer

**Primary ab:** 1µg/mL

**Incubation:** 4°C overnight

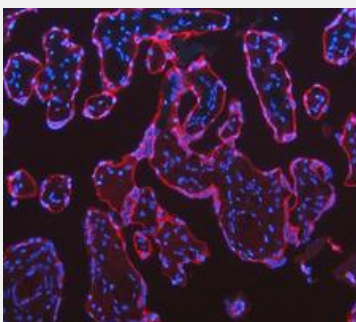
**Secondary:** BA1142

**Imaging:** Fluorescent

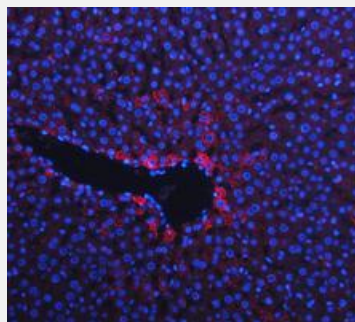
Microscopy

[View Original Image →](#)

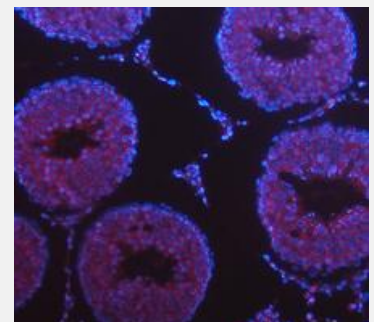
An in house certified pathologist reviewed the result images recommended the medium medium (5µg/mL) be used for immunofluorescence. This condition is used to perform immunohistochemistry on other relevant tissues to ensure the antibody produces expected staining patterns.



Human placenta



Rat liver



Rat testis

**Expected:** high level

**Observed:** high level

[View Original Image →](#)

**Expected:** high level

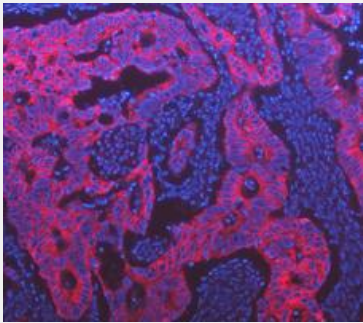
**Observed:** high level

[View Original Image →](#)

**Expected:** low level

**Observed:** low level

[View Original Image →](#)

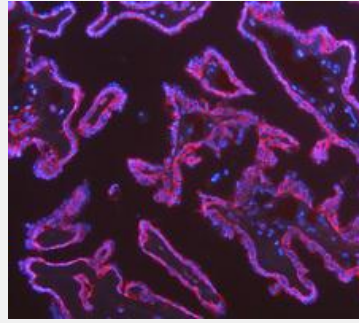


**Human colon cancer**

**Expected:** high level

**Observed:** high level

[View Original Image →](#)

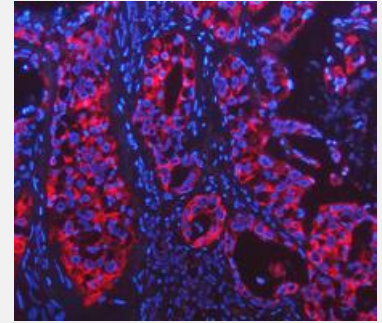


**Human ovarian cancer**

**Expected:** high level

**Observed:** high level

[View Original Image →](#)



**Human lung cancer**

**Expected:** high level

**Observed:** high level

[View Original Image →](#)

## ICC/IF scoring

**5/5, Supported–Orthogonal, based on the following criteria:**

1. IF stains in the selected tissue line are consistent with RNA level data.
2. IF staining subcellular localization is consistent with literature and other established antibodies for this biomarker.

# Company Profile



30+years of technique improvement



20000+ antibodies and 2000+ ELISA kits



60000+ cited publications



Driven by user's need

Boster Bio has been dedicated to providing affordable high-sensitivity, high-specificity ELISA kits, and WB/IHC compatible antibodies since its establishment in 1993. We offer antibodies rigorously validated for IHC, WB, ELISA, and Flow CytoMetry, striving to deliver the highest-quality service and earn the trust of researchers globally. Low-cost antibody packages for rare organisms and free validation for antibodies are provided now. Free E-books, blogs, and educational pathway maps are also offered on our website. We are ready to serve any customer at any time.



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