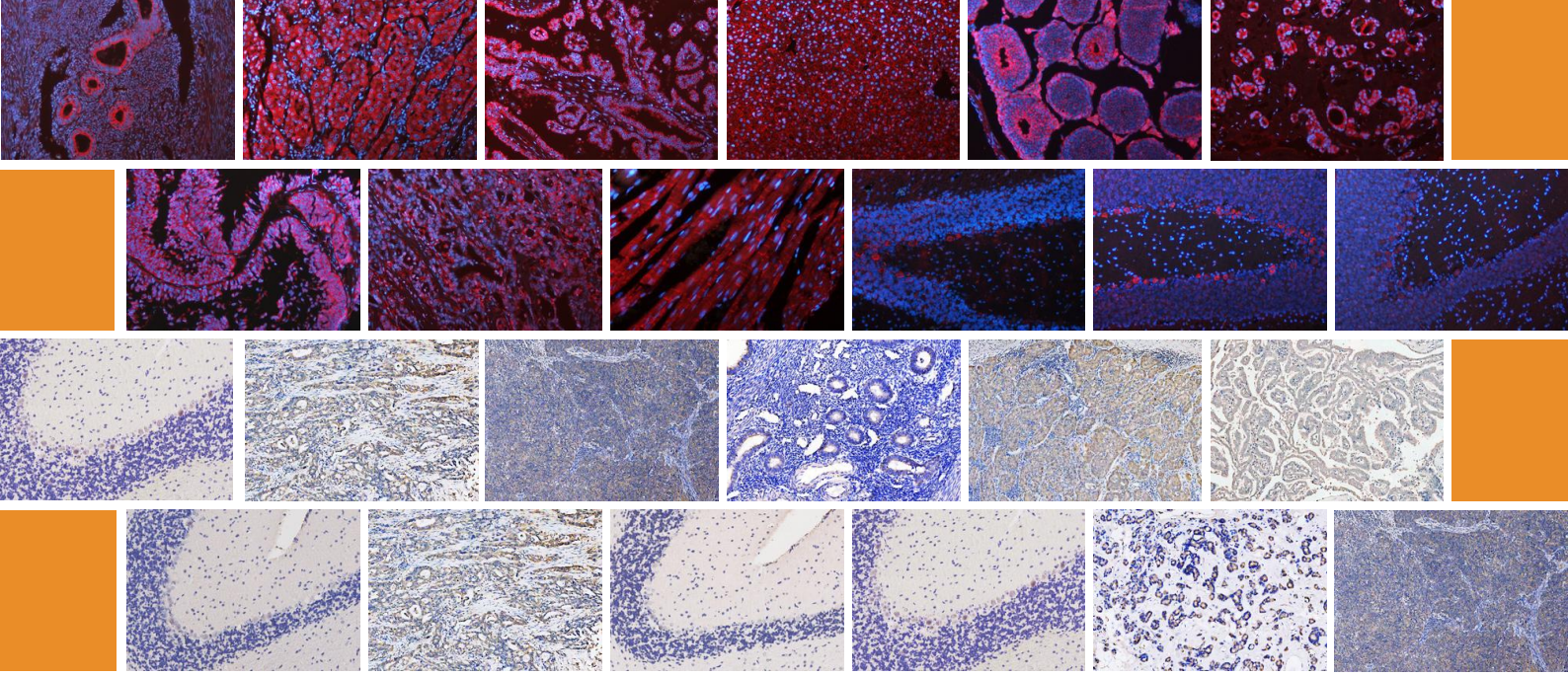
BOSTER
antibody and ELISA experts

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

CDH2/N-Cadherin antibody, optimized for IHC and immunofluorescence



CDH2/N-Cadherin antibody, optimized for IHC and immunofluorescence

Summary

Boster Bio's CDH2/N-Cadherin antibody (PA1328) 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

CDH2/N-Cadherin protein is an important cell adhesion protein that plays a key role in embryonic development, nervous system development, and tissue formation. CDH2(PA1328) antibody has good experimental results in immunofluorescence and immunohistochemistry experiments, and is more prominent in tumor samples. Antibody evaluation 4 out of 5 stars.

Antibody information

Antibody Name: Anti-CDH2 Antibody Picoband™

Host Species: Rabbit

Isotype: IgG (Polyclonal)

Catalog Number: PA1328

Supplier: Boster Bio

Validation Findings Summary:

The CDH2 antibody demonstrated high specificity, sensitivity, and reproducibility in immunofluorescence assays. The optimized conditions provide reliable detection of CDH2 in pathologically relevant cell lines and tissues. Researchers can confidently use this antibody for CDH2 immunofluorescence studies, contributing to accurate and meaningful experimental outcomes.

CDH2 Introduction

Introduction and origin

CDH2 (N-Cadherin) is a cell adhesion protein, also known as N-cadherin. It belongs to the classic cadherin superfamily of cadherins. CDH2 plays an important role in cell-cell adhesion and signaling. It plays a key role in embryonic development, tissue formation and maintenance, and nervous system development.

The CDH2 gene is located on human chromosome 18 and encodes a polypeptide chain consisting of 906 amino acid residues. Based on its amino acid sequence, the relative molecular mass of CDH2 protein can be estimated to be about 100 kDa.

Function and effect

CDH2 plays a vital role in embryonic development. During early embryogenesis, CDH2 is involved in cell-cell adhesion and promotes the polymerization and formation of primitive ectodermal cells. As embryonic development progresses, CDH2 continues to play an important role in tissue formation and differentiation.

CDH2 plays a key role in the development and function of the nervous system. It is involved in synaptic formation, synaptic plasticity, and neuronal migration. Studies have shown that CDH2 promotes the stabilization and formation of synaptic connections by regulating the adhesion between neurons. In addition, CDH2 is also involved in neuronal axon guidance, dendritic generation, and synaptic transmission.

Clinical significance

CDH2 protein is an important cell adhesion protein that plays a key role in embryonic development, nervous system development, and tissue formation. It is involved in several biological processes and has been associated with a variety of diseases. In-depth research on CDH2 protein and its related signaling pathways will help us better understand its function and regulatory mechanism, and provide new ideas for the treatment of related diseases.In some cancers, CDH2 is overexpressed, promoting the ability of cancer cells to invade and metastasize. In addition, some inherited nervous system diseases are also associated with CDH2 gene mutations, such as Parkinson's disease, Alzheimer's disease, etc.

Expected Staining Patterns

Cellular Localization:

CDH2 is localized to the Plasma membrane (supported).

Localization →

Tissues with high expression of CDH2:

CDH2 is known to membranous express in selected tissues, most abundant in liver, kidney, adrenal gland, testis and intercalated discs in heart.

Tissues expression →

Cell lines with high expression of CDH2:

According to data from ProteinAtlas.com, CDH2 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. Rat cerebellum(used for optimization with 3 concentrations of primary antibody)

Positive tissues for IF:

1. *Rat cerebellum(used for optimization with 3 concentrations of primary antibody)*

Positive tissues for IF (experimental verification):

1. Human liver cancer,human endometrial cancer,human pancreatic cancer,human lung cancer,human thyroid cancer

Positive tissues for IHC (experimental verification):

1. *Rat cardiac,mouse testis,mouse liver*
2. *Human liver cancer,human endometrial cancer,human pancreas cancer,human lung cancer,human thyroid cancer,human ovarian 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-CDH2/N-Cadherin Antibody (PA1328), Concentrations tested: 1μg/mL, 2.5μg/mL, 25μg/mL.
2. EDTA Buffer (pH 8.0, Epitope Retrieval Solution): Used for heat-mediumted antigen retrieval.
3. Inactivation:3% H_2O_2 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

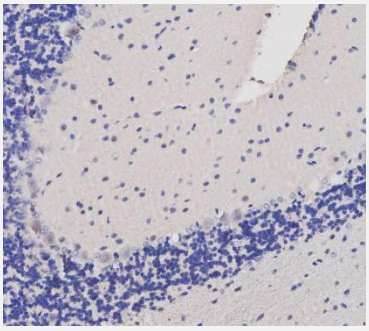
Immunohistochemistry:

Protocol reference

Click to view

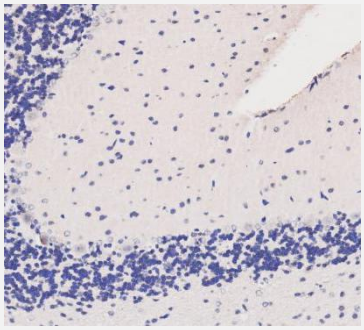
IHC Optimization

Rat cerebellum tissue embedded in FFPE is used to optimize the concentration and incubation time for the antibody. 3 concentrations of rabbit anti-CDH2/N-Cadherin Antibody (PA1328) were used to incubate. 1μg/mL, 2.5μg/mL, 25μg/mL overnight at 4°C. The results are as follows:



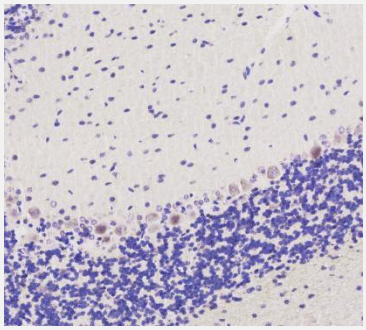
Antigen Retrieval: Heat
Primary ab: 25µg/mL
Incubation: 4°C overnight
Imaging: Brightfield

View Original Image →



Antigen Retrieval: Heat
Primary ab: 2.5µg/mL
Incubation: 4°C overnight
Imaging: Brightfield

View Original Image →



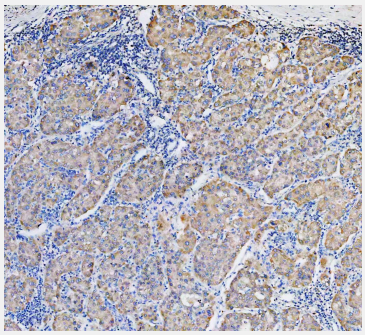
Antigen Retrieval: Heat
Primary ab: 1µg/mL
Incubation: 4°C overnight
Imaging: Brightfield

View Original Image →

An in-house certified pathologist reviewed the result images and recommended the medium condition (1µg/mL) be used for immunofluorescence. This condition is used to perform immunohistochemistry on other relevant cancerous tissues to ensure the antibody produces expected staining patterns.

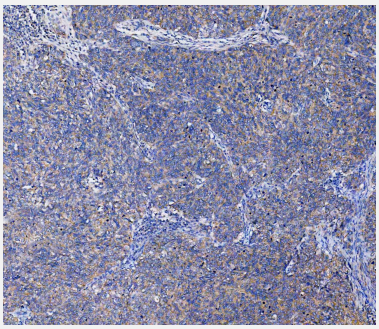
IHC Additional validations:

Cancerous tissues



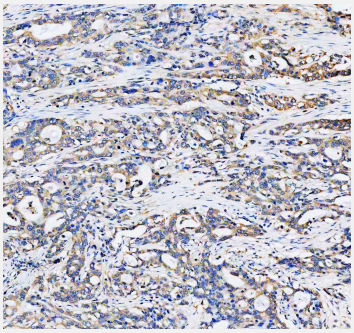
Human liver cancer
Expected: low level
Observed: high level

View Original Image →



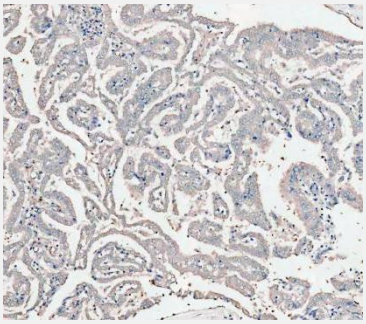
Human cervical cancer
Expected: low level
Observed: medium level

View Original Image →



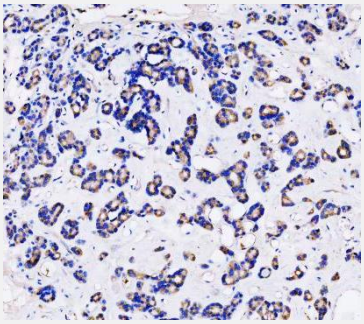
Human pancreas cancer
Expected: medium level
Observed: medium level

View Original Image →



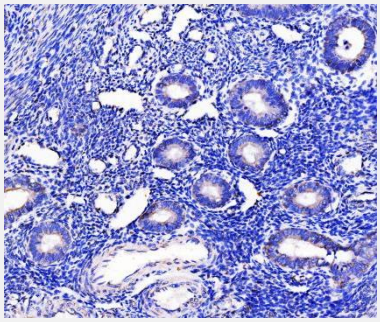
Human lung cancer
Expected: low level **Observed:** medium level

View Original Image →



Human thyroid cancer
Expected: high level
Observed: low level

View Original Image →



Human endometrial cancer
Expected: medium level
Observed: low level

View Original Image →

Tissue staining expectation reference

Click to view

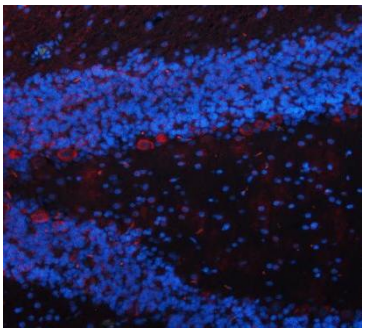
IHC scoring

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.

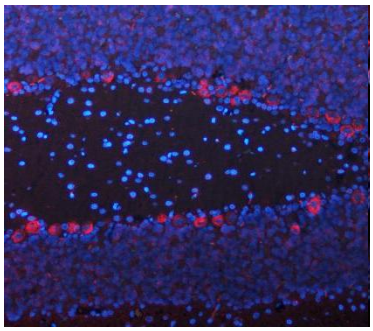
IF Optimization

The rat cerebellum is used to optimize the concentration and incubation time for the antibody. 3 concentrations of rabbit anti-CDH2/N-Cadherin Antibody (PA1328) were used to incubate. 1µg/mL, 2.5µg/mL, 25µg/mL overnight at 4°C. The results are as follows:



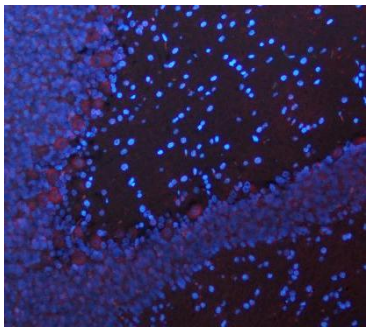
Rat cerebellum
Primary ab: 25µg/mL
Incubation: 4°C overnight
Secondary: BA1127
Imaging: Fluorescent Microscopy

View Original Image →



Rat cerebellum
Primary ab:2.5µg/mL
Incubation: 4°C overnight
Secondary: BA1127
Imaging: Fluorescent Microscopy

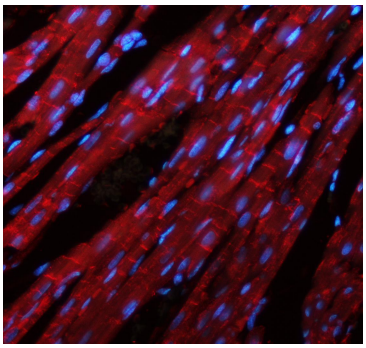
View Original Image →



Rat cerebellum
Primary ab:1µg/mL
Incubation: 4°C overnight
Secondary: BA1127
Imaging: Fluorescent Microscopy

View Original Image →

An in house certified pathologist reviewed the result images recommended the medium condition (2.5µg/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.

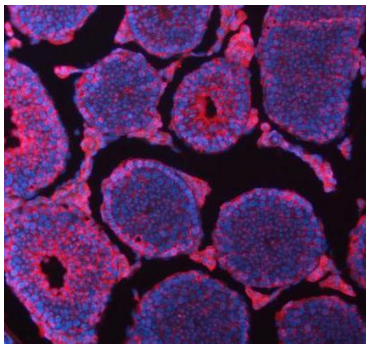


Rat cardiac

Expected: high level

Observed: high level

View Original Image →

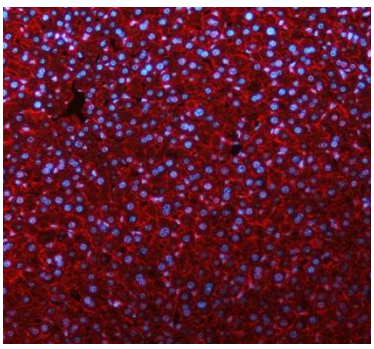


Mouse testis

Expected: high level

Observed: high level

View Original Image →

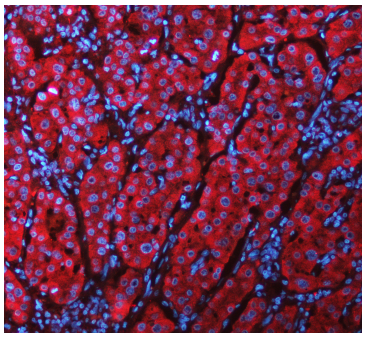


mouse liver

Expected:high level

Observed: medium level

View Original Image →

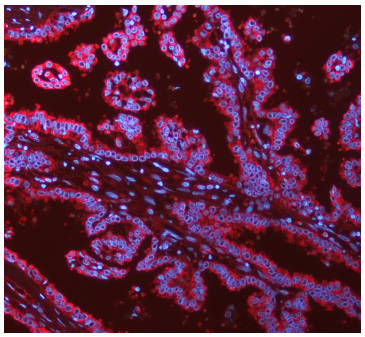


Human liver cancer

Expected: low level

Observed: high level

View Original Image →

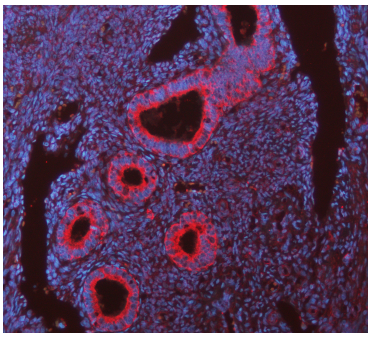


Human lung cancer

Expected: low level

Observed: high level

View Original Image →

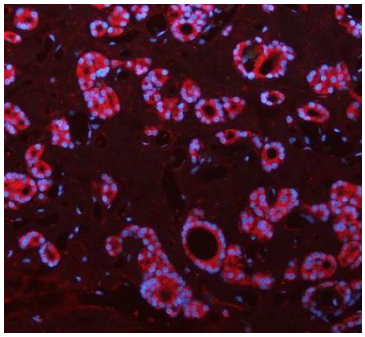


Human endometrial cancer

Expected: low level

Observed: high level

View Original Image →

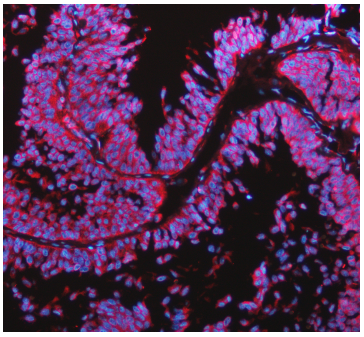


Human thyroid cancer

Expected: high level

Observed: high level

View Original Image →

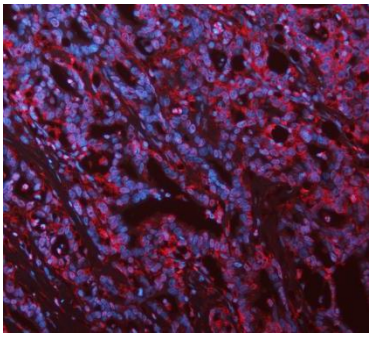


Human ovarian cancer

Expected: low level

Observed: high level

View Original Image →



Human pancreatic cancer

Expected: low 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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