

VENTANA anti-p120 catenin (98) Mouse Monoclonal Primary Antibody

REF 790-4517
05867088001

IVD Σ 50

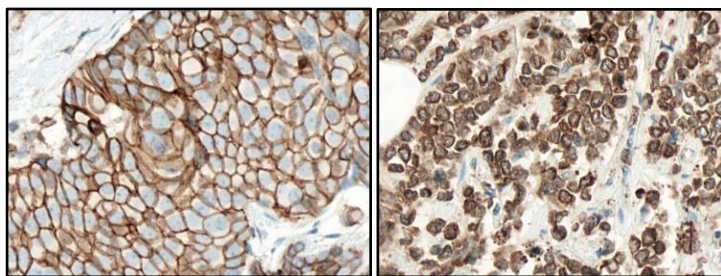


Figure 1. VENTANA anti-p120 catenin (98) antibody staining invasive ductal carcinoma (left) and invasive lobular carcinoma (right).

INTENDED USE

VENTANA anti-p120 catenin (98) Mouse Monoclonal Primary Antibody is intended for laboratory use in the qualitative immunohistochemical detection of p120 by light microscopy in sections of formalin-fixed, paraffin-embedded tissue stained on a BenchMark IHC/ISH instrument.

This product should be interpreted by a qualified pathologist in conjunction with histological examination, relevant clinical information, and proper controls.

This antibody is intended for *in vitro* diagnostic (IVD) use.

SUMMARY AND EXPLANATION

VENTANA anti-p120 catenin (98) Mouse Monoclonal Primary Antibody (VENTANA anti-p120 catenin (98) antibody) recognizes catenin delta 1 also known as CTNND1 or p120. Sixty-four p120 isoforms can be produced from four alternatively spliced exons and four transcriptional start sites. The p120 isoforms are often co-expressed in a balanced manner, however, the functions of these isoforms remains to be elucidated.^{1,2}

Research has demonstrated that p120 interacts directly with E-cadherin, consistent with its localization to cell-cell junctions.^{3,4,5} p120 selectively regulates cadherin endocytosis and stability by binding the E-cadherin juxtamembrane domain.^{2,6} Additionally, p120 regulates members of the Rho family of small GTPases, which play critical roles in cytoskeletal dynamics and cadherin-mediated cell-cell adhesion.²

Expression of p120 has been demonstrated in intercellular junctions of endothelia and epithelial cells, intercalated discs of cardiomyocytes, and synaptic complexes and other junctions in the nervous system.⁷ Immunohistochemical studies have shown p120 to be localized mainly to the membrane and widely expressed across several tissues.⁷ Although it is important to note, that there are some epithelial tumors, including lobular breast carcinomas, which may show cytoplasmic localization of p120 staining with concurrent E-cadherin loss from the tumor cell membrane.⁸

Detection of p120 protein by immunohistochemistry (IHC) with the VENTANA anti-p120 catenin (98) antibody may be used to aid in the identification of lobular breast carcinoma when p120 expression is cytoplasmic; and aid in the identification of ductal breast carcinoma when p120 expression is membranous. It may be used as part of a panel of IHC studies.

PRINCIPLE OF THE PROCEDURE

VENTANA anti-p120 catenin (98) antibody binds to the p120 catenin protein in formalin-fixed, paraffin-embedded (FFPE) tissue sections. This antibody can be visualized using *ultraView* Universal DAB Detection Kit (Cat. No. 760-500 / 05269806001) or *OptiView* DAB IHC Detection Kit (Cat. No. 760-700 / 06396500001). Refer to the respective method sheet for further information.

MATERIAL PROVIDED

VENTANA anti-p120 catenin (98) antibody contains sufficient reagent for 50 tests.

One 5 mL dispenser of VENTANA anti-p120 catenin (98) antibody contains approximately 8 µg of a mouse monoclonal antibody.

The antibody is diluted in Tris-HCl Dilution Buffer with Brij-35, 1% carrier protein, and 0.1% ProClin 300, a preservative.

Specific antibody concentration is approximately 1.6 µg/mL. There is no known non-specific antibody reactivity observed in this product.

VENTANA anti-p120 catenin (98) antibody is a recombinant mouse monoclonal antibody produced from purified cell culture supernatant.

Refer to the appropriate VENTANA detection kit method sheet for detailed descriptions of: Principle of the Procedure, Material and Methods, Specimen Collection and Preparation for Analysis, Quality Control Procedures, Troubleshooting, Interpretation of Results, and Limitations.

MATERIALS REQUIRED BUT NOT PROVIDED

Staining reagents, such as VENTANA detection kits and ancillary components, including negative and positive tissue control slides, are not provided.

Not all products listed in the method sheet may be available in all geographies. Consult your local product representative.

The following reagents and materials may be required for staining but are not provided:

1. Recommended control tissue
2. Microscope slides, positively charged
3. Negative Control (Monoclonal) (Cat. No. 760-2014 / 05266670001)
4. *ultraView* Universal DAB Detection Kit (Cat. No. 760-500 / 05269806001)
5. *OptiView* DAB IHC Detection Kit (Cat. No. 760-700 / 06396500001)
6. EZ Prep Concentrate (10X) (Cat. No. 950-102 / 05279771001)
7. Reaction Buffer Concentrate (10X) (Cat. No. 950-300 / 05353955001)
8. LCS (Predilute) (Cat. No. 650-010 / 05264839001)
9. ULTRA LCS (Predilute) (Cat. No. 650-210 / 05424534001)
10. Cell Conditioning Solution (CC1) (Cat. No. 950-124 / 05279801001)
11. ULTRA Cell Conditioning Solution (ULTRA CC1) (Cat. No. 950-224 / 05424569001)
12. Hematoxylin II (Cat. No. 790-2208 / 05277965001)
13. Bluing Reagent (Cat. No. 760-2037 / 05266769001)
14. General purpose laboratory equipment
15. BenchMark IHC/ISH Instrument

STORAGE AND STABILITY

Upon receipt and when not in use, store at 2-8 °C. Do not freeze.

To ensure proper reagent delivery and the stability of the antibody, replace the dispenser cap after every use and immediately place the dispenser in the refrigerator in an upright position.

Every antibody dispenser is expiration dated. When properly stored, the reagent is stable to the date indicated on the label. Do not use reagent beyond the expiration date.

SPECIMEN PREPARATION

Routinely processed FFPE tissues are suitable for use with this primary antibody when used with VENTANA detection kits and BenchMark IHC/ISH instruments. The recommended tissue fixative is 10% neutral buffered formalin.⁹ Sections should be cut at approximately 4 µm in thickness and mounted on positively charged slides. Slides should be stained immediately, as antigenicity of cut tissue sections may diminish over time. Ask your Roche representative for a copy of "Recommended Slide Storage and Handling" for more information.

It is recommended that positive and negative controls be run simultaneously with unknown specimens.

WARNINGS AND PRECAUTIONS


1. For *in vitro* diagnostic (IVD) use.
2. For professional use only.
3. Do not use beyond the specified number of tests.
4. ProClin 300 solution is used as a preservative in this reagent. It is classified as an irritant and may cause sensitization through skin contact. Take reasonable

precautions when handling. Avoid contact of reagents with eyes, skin, and mucous membranes. Use protective clothing and gloves.

5. Positively charged slides may be susceptible to environmental stresses resulting in inappropriate staining. Ask your Roche representative for more information on how to use these types of slides.
6. Materials of human or animal origin should be handled as biohazardous materials and disposed of with proper precautions. In the event of exposure, the health directives of the responsible authorities should be followed.^{10,11}
7. This product contains 1% or less bovine serum which is used in the manufacture of the antibody.
8. Avoid contact of reagents with eyes and mucous membranes. If reagents come in contact with sensitive areas, wash with copious amounts of water.
9. Avoid microbial contamination of reagents as it may cause incorrect results.
10. For further information on the use of this device, refer to the BenchMark IHC/ISH instrument User Guide, and instructions for use of all necessary components located at navifyportal.roche.com.
11. Consult local and/or state authorities with regard to recommended method of disposal.
12. Product safety labeling primarily follows EU GHS guidance. Safety data sheet available for professional user on request.
13. To report suspected serious incidents related to this device, contact the local Roche representative and the competent authority of the Member State or Country in which the user is established.

This product contains components classified as follows in accordance with the Regulation (EC) No. 1272/2008:

Table 1. Hazard information.

Hazard	Code	Statement
	H317	May cause an allergic skin reaction.
	H412	Harmful to aquatic life with long lasting effects
	P261	Avoid breathing vapours.
	P273	Avoid release to the environment.
	P280	Wear protective gloves.
	P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
	P362 + P364	Take off contaminated clothing and wash it before reuse.
	P501	Dispose of contents/ container to an approved waste disposal plant.

This product contains CAS # 55965-84-9, reaction mass of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1).

STAINING PROCEDURE

VENTANA primary antibodies have been developed for use on BenchMark IHC/ISH instruments in combination with VENTANA detection kits and accessories. Refer to Table 2 and Table 3 for recommended staining protocols.

This antibody has been optimized for specific incubation times but the user must validate results obtained with this reagent.

The parameters for the automated procedures can be displayed, printed and edited according to the procedure in the instrument User Guide. Refer to the appropriate VENTANA detection kit method sheet for more details regarding immunohistochemistry staining procedures.

For more details on the proper use of this device, refer to the inline dispenser method sheet associated with P/N 790-4517.

Table 2. Recommended staining protocol for VENTANA anti-p120 catenin (98) antibody with *ultraView* Universal DAB Detection Kit on BenchMark IHC/ISH instruments.

Procedure Type	Method	
	GX	ULTRA or ULTRA PLUS ^a
Deparaffinization	Selected	Selected
Cell Conditioning (Antigen Unmasking)	CC1, Standard	ULTRA CC1, 64 minutes, 95 °C
Antibody (Primary)	16 minutes, 37 °C	20 minutes, 36 °C
Counterstain	Hematoxylin II, 4 minutes	
Post Counterstain	Bluing, 4 minutes	

^a Concordance was demonstrated between BenchMark ULTRA and BenchMark ULTRA PLUS instruments using representative assays.

Table 3. Recommended staining protocol for anti-p120 catenin (98) antibody with OptiView DAB IHC Detection Kit on BenchMark IHC/ISH instruments.

Procedure Type	Method	
	GX	ULTRA or ULTRA PLUS ^a
Deparaffinization	Selected	Selected
Cell Conditioning (Antigen Unmasking)	CC1, 32 minutes	ULTRA CC1, 32 minutes, 100 °C
Pre-Primary Peroxidase Inhibitor	Selected	Selected
Antibody (Primary)	16 minutes, 37 °C	16 minutes, 36 °C
OptiView HQ Linker	8 minutes	
OptiView HRP Multimer	8 minutes	
Counterstain	Hematoxylin II, 4 minutes	
Post Counterstain	Bluing, 4 minutes	

^a Concordance was demonstrated between BenchMark ULTRA and BenchMark ULTRA PLUS instruments using representative assays.

Due to variation in tissue fixation and processing, as well as general lab instrument and environmental conditions, it may be necessary to increase or decrease the primary antibody incubation, cell conditioning or protease pretreatment based on individual specimens, detection used, and reader preference. For further information on fixation variables, refer to "Immunohistochemistry Principles and Advances."¹²

NEGATIVE REAGENT CONTROL

In addition to staining with the VENTANA anti-p120 catenin (98) antibody a second slide should be stained with the appropriate negative control reagent.

POSITIVE TISSUE CONTROL

Optimal laboratory practice is to include a positive control section on the same slide as the test tissue. This helps identify any failures applying reagents to the slide. Tissue with weak positive staining is best suited for quality control. Control tissue may contain both positive and negative staining elements and serve as both the positive and negative control. Control tissue should be fresh autopsy, biopsy, or surgical specimen, prepared or fixed as soon as possible in a manner identical to test sections.

Known positive tissue controls should be utilized only for monitoring performance of reagents and instruments, not as an aid in determining specific diagnosis of test samples. If the positive tissue controls fail to demonstrate positive staining, results of the test specimen should be considered invalid.

An example of a positive control tissue for this antibody is normal ducts of the breast.

STAINING INTERPRETATION / EXPECTED RESULTS

The cellular staining pattern for VENTANA anti-p120 catenin (98) antibody is membranous in normal and neoplastic tissue but cytoplasmic in some tumors (i.e. invasive lobular carcinoma of the breast).

SPECIFIC LIMITATIONS

All assays might not be registered on every instrument. Please contact your local Roche representative for more information.

OptiView detection system is generally more sensitive than *ultra*View Universal DAB Detection Kit. The user must validate the results obtained with this reagent and detection systems.

PERFORMANCE CHARACTERISTICS

ANALYTICAL PERFORMANCE

Staining tests for sensitivity, specificity, and precision were conducted and the results are listed below.

Sensitivity and Specificity

Table 4. Sensitivity/Specificity of VENTANA anti-p120 catenin (98) antibody was determined by testing FFPE normal tissues.

Tissue	# positive / total cases	Tissue	# positive / total cases
Cerebrum ^a	1/7	Stomach ⁹	4/4
Cerebellum ^b	2/4	Small intestine ⁹	4/4
Adrenal gland ^c	1/4	Colon ⁹	4/4
Ovary ^d	1/3	Rectum ⁹	1/1
Pancreas ^e	4/4	Liver ⁹	4/4
Lymph node ^f	1/4	Eye	0/3
Parathyroid gland ⁹	3/3	Salivary gland ^{f,p}	4/5
Pituitary gland ^h	3/3	Larynx ⁱ	1/2
Testis ⁱ	4/4	Pharynx ⁱ	1/1
Thyroid ⁱ	4/4	Kidney ^s	4/4
Breast ^k	19/24	Prostate ⁹	3/4
Spleen	0/3	Bladder ^t	3/3
Tonsil ^{f,l}	3/3	Endometrium ^{d,g}	4/4
Thymus ^m	3/3	Cervix ^{9,l}	4/4
Bone marrow ⁿ	2/3	Skeletal muscle ^p	1/3
Lung ^o	1/4	Skin ⁱ	4/4
Heart ^p	2/3	Nerve ^u	2/3
Esophagus ^o	4/4	Mesothelium	0/3

^a Neuronal cells. ^b Purkinje cells. ^c Adrenal cortical cells. ^d Stroma. ^e Exocrine glandular and endocrine cells. ^f Immuno cells. ^g Glandular cells. ^h Neuroendocrine cells. ⁱ Seminiferous tubule cells. ^j Follicular cells. ^k Ductal cells, lobular cells; Tissue cases include benign, adipose tissue, adenosis and stromal fibrosis. ^l Squamous epithelium. ^m Epithelial and endothelial cells. ⁿ Hematopoietic cells. ^o Pneumocytes and bronchials. ^p Myocytes. ^q Hepatocytes and bile ductals. ^r Ductal cells. ^s Glomerulus and glandular cells. ^t Urothelium. ^u Nerve.

Table 5. Sensitivity/Specificity of VENTANA anti-p120 catenin (98) antibody was determined by testing a variety of FFPE neoplastic tissues.

Pathology	# positive / total cases
Astrocytoma (Cerebrum)	1/1
Meningioma (Cerebrum)	1/1
Haemangioblastoma (Cerebellum) ^a	1/1
Medulloblastoma (Cerebellum)	1/1
Inverted Papilloma (Head and neck)	1/1
Nasopharyngeal carcinoma, NPC (Head and neck, nasopharynx)	1/1
Pleomorphic adenoma (Head and neck, salivary gland)	1/1
Adenoid cystic carcinoma (Head and neck, salivary gland) ^a	1/1
Metastatic left orbital adenocarcinoma (Head and neck, salivary gland)	1/1
Adrenocortical adenoma (Adrenal gland)	0/1
Adrenocortical carcinoma (Adrenal gland) ^a	1/1
High grade serous carcinoma (Ovary)	1/1
Adenocarcinoma (Ovary)	1/1
Metastatic ovary adenocarcinoma (Rectum)	1/1
Solid pseudo-papillary neoplasm (Pancreas)	1/1
Neuroendocrine neoplasm (Pancreas)	1/1
Adenocarcinoma (Pancreas)	1/1
Seminoma (Testis)	1/1
Embryonal carcinoma (Testis)	1/1
Follicular adenoma (Thyroid)	1/1
Medullary carcinoma (Thyroid)	1/1
Intraductal papilloma (Breast)	1/1
Lobular carcinoma in situ (Breast) ^b	1/1
Invasive lobular carcinoma (Breast) ^b	122/131
Invasive carcinoma of no special type (Breast) ^b	74/76
Mucinous carcinoma (Breast)	1/1
Medullary carcinoma (Breast)	3/3
Metastatic breast carcinoma (Lymph node)	1/1
Metastatic breast adenocarcinoma (Cerebellum)	1/1
Squamous cell carcinoma (Lung)	0/1
Adenocarcinoma (Lung)	1/1
Metastatic lung squamous cell carcinoma (Brain)	1/1
Metastatic lung adenocarcinoma (Multiple sites)	1/2
Squamous cell carcinoma (Esophagus)	1/1
Leiomyoma (Esophagus)	1/1
Metastatic esophageal adenocarcinoma (Lymph node)	1/1
Adenocarcinoma (Stomach)	1/1
Tubular adenoma (Stomach)	1/1
Metastatic stomach adenocarcinoma (Multiple sites)	2/2
Adenocarcinoma (Small intestine)	1/1

Pathology	# positive / total cases
Gastrointestinal stromal tumor (GIST) (Small intestine)	1/1
Adenocarcinoma (Colon)	1/1
Tubular adenoma (Colon)	1/1
Metastatic colon mucinous adenocarcinoma (Multiple sites)	2/2
Adenocarcinoma (Rectum)	1/1
Villus tubular adenoma (Rectum)	1/1
Metastatic rectum adenocarcinoma (Bladder)	1/1
Hepatocellular carcinoma (Liver)	1/1
Cavernous hemangioma (Liver)	1/1
Metastatic hepatocellular carcinoma (Lung)	0/1
Giant cell tumor (Bone)	1/1
Osteosarcoma (Bone)	0/1
Clear cell carcinoma (Kidney)	1/1
Metastatic kidney clear cell carcinoma (Thyroid gland)	0/1
Metastatic kidney urothelial carcinoma (Testis)	1/1
Leiomyoma (Prostate)	1/1
Adenocarcinoma (Prostate)	1/1
Inverted papilloma (Bladder)	1/1
Urothelial carcinoma (Bladder)	1/1
Leiomyoma (uterus)	1/1
Endometrioid adenocarcinoma (Uterus)	1/1
Clear cell carcinoma (Uterus)	0/1
Squamous cell carcinoma (Cervix)	1/1
Adenocarcinoma (Cervix)	1/1
Metastatic cervix squamous cell carcinoma (Colon)	1/1
Hodgkin's lymphoma (Lymph node)	1/1
Metastatic adenocarcinoma NOS (Skin)	1/1
Squamous cell carcinoma (Skin)	1/1
Melanoma	1/1

^a Focal nuclear localization. ^b See Table 6 for staining pattern exhibited in positive cases.

The detection of p120 by immunohistochemistry (IHC) with the VENTANA anti-p120 catenin (98) antibody may be used to aid in the identification of: lobular breast carcinoma when p120 expression is cytoplasmic; and ductal breast carcinoma when p120 expression is membranous. Refer to Table 6 for staining pattern observed in positive cases of breast ductal carcinomas and breast lobular carcinomas found in Table 5.

Table 6. Membranous and cytoplasmic staining pattern in FFPE positive neoplastic tissues.

Carcinoma of Breast	Staining Pattern ^a		
	# of cases exhibiting staining pattern / total # of cases (%)		
	Membranous	Cytoplasmic	Cyto-membranous
Lobular ^b	9/123 (7.3%)	94/123 (76.4%)	20/123 (16.3%)
Ductal	70/74 (94.6%)	3/74 (4.1%)	1/74 (1.4%)

Carcinoma of Breast	Staining Pattern ^a		
	# of cases exhibiting staining pattern / total # of cases (%)		
	Membranous	Cytoplasmic	Cyto-membranous

^a Excludes negative cases.

^b Tissues assessed included invasive lobular carcinoma and lobular carcinoma in situ.

Precision

Precision studies for VENTANA anti-p120 catenin (98) antibody were completed to demonstrate:

- Between lot precision of the antibody.
- Within run and between day precision on a BenchMark ULTRA instrument.
- Between instrument precision on the BenchMark GX and BenchMark ULTRA / ULTRA PLUS instrument.
- Between platform precision between the BenchMark GX and BenchMark ULTRA / ULTRA PLUS instrument.

All studies met their acceptance criteria.

Precision on the BenchMark ULTRA PLUS instrument was demonstrated using representative assays. Studies included Within Run Repeatability, Between Day and Between Instrument Intermediate Precision. All studies met their acceptance criteria.

CLINICAL PERFORMANCE

Clinical performance data relevant to the intended purpose of VENTANA anti-p120 catenin (98) antibody were assessed by systematic review of the literature. The data gathered support the use of the device in accordance with its intended purpose.

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NOTE: A point (period/stop) is always used in this document as the decimal separator to mark the border between the integral and the fractional parts of a decimal numeral. Separators for thousands are not used.

The summary of safety and performance can be found here:

<https://ec.europa.eu/tools/eudamed>

Symbols

Ventana uses the following symbols and signs in addition to those listed in the ISO 15223-1 standard (for USA: see elabdoc.roche.com/symbols for definition of symbols used):



Global Trade Item Number

Rx only

For USA: Caution: Federal law restricts this device to sale by or on the order of a physician.

REVISION HISTORY

Rev	Updates
E	<p>Updates to Principle of the Procedure, Material Provided, Materials Required but not Provided, Warnings and Precautions, Staining Procedure, Staining Interpretation / Expected Results, Analytical Performance, Symbols, and Intellectual Property sections.</p> <p>Added BenchMark GX instrument.</p> <p>Added OptiView DAB IHC Detection Kit.</p> <p>Removed recommended protocols for BenchMark XT.</p>

INTELLECTUAL PROPERTY

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