

## CONFIRM anti-CD3 (2GV6) Rabbit Monoclonal Primary Antibody

**REF** 790-4341

05278422001

**IVD**  50

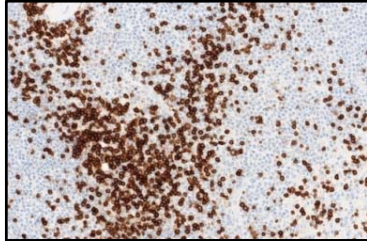


Figure 1. CONFIRM anti-CD3 (2GV6) Rabbit Monoclonal Primary Antibody staining of tonsil using OptiView DAB IHC Detection Kit.

### INTENDED USE

CONFIRM anti-CD3 (2GV6) Rabbit Monoclonal Primary Antibody is intended for laboratory use in the qualitative immunohistochemical detection of CD3 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

CD3 is a multimeric protein complex composed of four distinct polypeptide chains: gamma, delta, epsilon, and zeta.<sup>1,2</sup> Like many commercial CD3 antibodies, CONFIRM anti-CD3 (2GV6) Rabbit Monoclonal Primary Antibody (CONFIRM anti-CD3 (2GV6) antibody) detects the epsilon chain of CD3 which is expressed on T-cells and natural killer (NK)-cells.<sup>1,3</sup> Structurally, CD3 proteins have an N-terminal domain that recognizes foreign antigens, a transmembrane domain, and a cytoplasmic domain, which contains immunoreceptor tyrosine-based activation motifs that propagate signaling cascades.<sup>2,4</sup> Through its cytoplasmic domain, CD3 associates with the T-cell receptor (TCR) and initiates downstream signaling cascades upon antigen recognition.<sup>1,4</sup>

On normal tissues, CD3 is expressed on T-cells, Purkinje neurons, and the CD3-epsilon chain is expressed on NK-cells.<sup>1,2</sup> On T-cells, CD3 is initially expressed in the cytoplasm of early thymocytes and is later expressed on the cell membrane of mature T-cells.<sup>1,2</sup> The appearance of CD3 throughout many stages of T-cell maturation makes it an ideal pan T-cell marker and its expression is typically maintained in many T-cell neoplasms.<sup>1,2</sup> However, CD3 expression may occasionally be lost in some T-cell lymphoma subtypes, particularly anaplastic large cell lymphoma (ALCL).<sup>3</sup> CD3 is typically not expressed on B-cells, myeloid cells, or their malignant counterparts.<sup>1,2,3</sup>

Detection of CD3 by immunohistochemistry (IHC) with the CONFIRM anti-CD3 (2GV6) antibody may be used to aid in the identification of normal and neoplastic T-cells. It may be used as part of a panel of IHC studies. The staining pattern is membranous and/or cytoplasmic.

### PRINCIPLE OF THE PROCEDURE

CONFIRM anti-CD3 (2GV6) antibody binds to the CD3 protein in formalin-fixed, paraffin-embedded (FFPE) tissue sections. CONFIRM anti-CD3 (2GV6) antibody can be visualized using OptiView DAB IHC Detection Kit (Cat. No. 760-700 / 06396500001) or *ultraView* Universal DAB Detection Kit (Cat. No. 760-500 / 05269806001). Refer to the respective method sheet for further information.

### MATERIAL PROVIDED

CONFIRM anti-CD3 (2GV6) antibody contains sufficient reagent for 50 tests.

One 5 mL dispenser of CONFIRM anti-CD3 (2GV6) antibody contains approximately 2 µg of a rabbit monoclonal (2GV6) antibody.

CONFIRM anti-CD3 (2GV6) antibody is diluted in Tris-HCl with carrier protein and ProClin 300, a preservative.

Specific antibody concentration is approximately 0.4 µg/mL. There is no known non-specific antibody reactivity observed in this product.

CONFIRM anti-CD3 (2GV6) antibody is a recombinant rabbit monoclonal antibody produced as 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 support 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. Rabbit Monoclonal Negative Control Ig (Cat. No. 790-4795 / 06683380001)
4. OptiView DAB IHC Detection Kit (Cat. No. 760-700 / 06396500001)
5. *ultraView* Universal DAB Detection Kit (Cat. No. 760-500 / 05269806001)
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. Permanent mounting medium
15. Cover glass
16. Automated coverslipper
17. General purpose laboratory equipment
18. 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, formalin-fixed, paraffin-embedded (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.<sup>5</sup> 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. **CAUTION:** In the United States, Federal law restricts this device to sale by or on the order of a physician. (Rx Only)
4. Do not use beyond the specified number of tests.
5. 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.

6. 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.
7. 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.<sup>6,7</sup>
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 [dialog.roche.com](http://dialog.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 dust/ fume/ gas/ mist/ vapours/ spray.
	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 790-4341.

Table 2. Recommended staining protocol for CONFIRM anti-CD3 (2GV6) antibody with OptiView DAB IHC Detection Kit on BenchMark IHC/ISH instruments.

Procedure Type	Method		
	GX	XT	ULTRA or ULTRA PLUS <sup>a</sup>
Deparaffinization	Selected	Selected	Selected
Cell Conditioning (Antigen Unmasking)	CC1, 40 minutes	CC1, 40 minutes	ULTRA CC1, 40 minutes, 100°C
Pre-Primary Peroxidase Inhibitor	Selected	Selected	Selected
Antibody (Primary)	16 minutes, 37°C	16 minutes, 37°C	20 minutes, 36°C
OptiView HQ Linker	8 minutes (default)		
OptiView HRP Multimer	8 minutes (default)		
Counterstain	Hematoxylin II, 4 minutes		
Post Counterstain	Bluing, 4 minutes		

<sup>a</sup> Concordance was demonstrated between BenchMark ULTRA and BenchMark ULTRA PLUS instruments using representative assays.

Table 3. Recommended staining protocol for CONFIRM anti-CD3 (2GV6) antibody with *ultraView* Universal DAB Detection Kit on BenchMark IHC/ISH instruments.

Procedure Type	Method		
	GX	XT	ULTRA or ULTRA PLUS <sup>a</sup>
Deparaffinization	Selected	Selected	Selected
Cell Conditioning (Antigen Unmasking)	CC1, Mild	CC1, Mild	ULTRA CC1, Mild, 36 minutes, 95 °C
Antibody (Primary)	16 minutes, 37°C	16 minutes, 37°C	20 minutes, 36°C
Counterstain	Hematoxylin II, 4 minutes		
Post Counterstain	Bluing, 4 minutes		

<sup>a</sup> 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."<sup>8</sup>

### NEGATIVE REAGENT CONTROL

In addition to staining with CONFIRM anti-CD3 (2GV6), 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.

Examples of positive control tissues for this antibody are spleen, tonsil, or lymph node.

### STAINING INTERPRETATION / EXPECTED RESULTS

The cellular staining pattern for CONFIRM anti-CD3 (2GV6) antibody is membranous and/or cytoplasmic.

### SPECIFIC LIMITATIONS

OptiView Detection system is generally more sensitive than *ultraView* Detection system.

The user must validate results obtained with this reagent and detection systems.

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

### PERFORMANCE CHARACTERISTICS

#### ANALYTICAL PERFORMANCE

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

#### Sensitivity and Specificity

T lymphocytes are present in all normal non-lymphoid tissues. In these structures with T lymphocyte staining, only the epithelium or relevant organ cell type is assessed for positive / negative status.

Table 4. Sensitivity/Specificity of CONFIRM anti-CD3 (2GV6) antibody was determined by testing FFPE normal tissues.

Tissue	# positive* / total cases	Tissue*	# positive / total cases
Cerebrum	0/3	Stomach	0/3
Cerebellum	0/3	Small intestine	0/3
Adrenal gland	0/3	Colon	0/3
Ovary	0/3	Appendix	0/1
Pancreas	0/3	Liver	0/3
Lymph node	9/9	Salivary gland	0/3
Parathyroid gland	0/3	Pharynx, oral cavity	0/3
Pituitary gland	0/3	Kidney	0/3
Testis	0/3	Prostate	0/3
Thyroid	0/3	Bladder	0/3
Breast	0/3	Endometrium	0/3
Spleen	6/6	Cervix	0/3
Tonsil	11/11	Skeletal muscle	0/3
Thymus	3/3	Skin	0/3
Bone marrow	3/3	Nerve	0/3
Lung	0/3	Mesothelium	0/3
Heart	0/3	Soft Tissue	0/2
Esophagus	0/3		

\* Positive cases demonstrated T lymphocyte staining in lymphoid tissues: spleen, tonsil, thymus, and bone marrow.

Table 5. Sensitivity/Specificity of CONFIRM anti-CD3 (2GV6) antibody was determined by testing a variety of FFPE neoplastic tissues.

Pathology	# positive / total cases
Glioblastoma (Cerebrum)	0/1
Meningioma (Cerebrum)	0/1
Ependymoma (Cerebrum)	0/1
Oligodendroglioma (Cerebellum)	0/1
Adenocarcinoma (Head, Neck)	0/1
Squamous cell carcinoma (Head, Neck)	0/1
Serous adenocarcinoma (Ovary)	0/1
Granulosa cell tumor (Ovary)	0/1
Teratoma (Ovary)	0/1
Neuroendocrine neoplasm (Pancreas)	0/1
Ductal adenocarcinoma (Pancreas)	0/1
Seminoma (Testis)	0/1
Embryonal carcinoma (Testis)	0/1
Follicular carcinoma (Thyroid)	0/1
Papillary carcinoma (Thyroid)	0/1
Ductal carcinoma in situ (DCIS) (Breast)	0/1
Invasive ductal carcinoma (Breast)	0/1
Invasive lobular carcinoma (Breast)	0/1
Adenoma (Adrenal gland)	0/1
Small cell carcinoma (Lung)	0/1
Squamous cell carcinoma (Lung)	0/1
Adenocarcinoma (Lung)	0/1
Pleomorphic Adenoma (Salivary gland)	0/1
Warthin's Tumor (Salivary gland)	1/1
Squamous cell carcinoma (Esophagus)	0/1
Adenocarcinoma (Esophagus)	0/1
Adenocarcinoma (Stomach)	0/1
Gastrointestinal stromal tumor (Stomach)	0/1
Adenocarcinoma (Small intestine)	0/1
Gastrointestinal stromal tumor (Small intestine)	0/1
Adenosquamous carcinoma (Colon)	0/1
Adenocarcinoma (Colon)	0/1
Carcinoid tumor (Appendix)	0/1
Hepatocellular carcinoma (Liver)	0/1
Cholangiocarcinoma (Liver)	0/1
Clear cell carcinoma (Kidney)	0/1

Pathology	# positive / total cases
Papillary adenoma (Kidney)	0/1
Adenocarcinoma (Prostate)	0/2
Endometroid Carcinoma (Uterus)	0/1
Leiomyoma (Uterus)	0/1
Leiomyosarcoma (Uterus)	0/1
Clear cell carcinoma (Uterus)	0/1
Squamous cell carcinoma (Cervix)	0/1
Adenocarcinoma (Cervix)	0/1
Alveolar rhabdomyosarcoma (Muscle)	0/1
Myxoma (Muscle)	0/1
Invasive melanoma (Skin)	0/1
Basal cell carcinoma (Skin)	0/1
Squamous cell carcinoma (Skin)	0/1
Malignant peripheral nerve sheath tumor (Peripheral nerve)	0/1
Schwannoma (Peripheral nerve)	0/1
Hodgkin lymphoma	0/20
Non-Hodgkin lymphoma, NOS	3/21
B cell lymphoma, NOS	4/40
Diffuse large B-cell lymphoma (DLBCL)	0/34
Follicular lymphoma	0/2
Mantle cell lymphoma	0/1
MALT B-cell lymphoma	0/8
Plasmacytoma (Extramedullary)	0/1
Peripheral T cell lymphoma, NOS	31/33
Peripheral T cell lymphoma, mycosis fungoides	1/1
Peripheral T cell lymphoma, enteropathy-associated	5/6
Peripheral T cell lymphoma, Lennert lymphoma	2/3
Angioimmunoblastic T cell lymphoma	12/12
Anaplastic large cell lymphoma	7/15
Natural Killer/T-cell lymphoma, nasal type	4/5
Natural Killer/T-cell lymphoma, NOS	1/1
Lymphoma, null type	1/1
Urothelial carcinoma (Bladder)	0/1
Squamous cell carcinoma (Bladder)	0/1
Mesothelioma (Mesothelium)	0/1
Solitary fibrous tumor (Pleural)	0/1
Angiosarcoma (Soft tissue)	0/1

Pathology	# positive / total cases
Liposarcoma (Soft tissue)	0/1

### Precision

Precision studies for CONFIRM anti-CD3 (2GV6) antibody were completed to demonstrate:

- Between lot intermediate precision of the antibody.
- Within run and between day precision on a BenchMark ULTRA instrument.
- Between instrument intermediate precision on the BenchMark GX, BenchMark XT, and BenchMark ULTRA instruments.
- Between platform intermediate precision between the BenchMark GX, BenchMark XT, and BenchMark ULTRA instruments.

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-run Intermediate Precision. All studies met their acceptance criteria.

### CLINICAL PERFORMANCE

Clinical performance data relevant to the intended purpose of CONFIRM anti-CD3 (2GV6) antibody were assessed by systematic review of the literature. The data gathered support the use of the device in accordance with its intended purpose.

### REFERENCES

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4. Chetty R, Gatter K. Cd3: Structure, Function, and Role of Immunostaining in Clinical Practice. J Pathol. 1994;173(4):303-307.
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7. Directive 2000/54/EC of the European Parliament and Council of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work.
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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 [dialog.roche.com](https://www.dialog.roche.com) for definition of symbols used):



Global Trade Item Number



Unique Device Identification



Indicates the entity importing the medical device into the European Union

**REVISION HISTORY**

Rev	Updates
F	Updates to Intended Use, Summary and Explanation, Principle of the Procedure, Material Provided, Specimen Preparation, Warnings and Precautions, Staining Procedure, Negative Reagent Control, Specific Limitations, Analytical Performance, Clinical Performance, References, Symbols, Intellectual Property, and Contact Information sections. Added BenchMark ULTRA PLUS instrument.

**INTELLECTUAL PROPERTY**

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