

# CD8 [C8/1779R]

Concentrated and Prediluted Rabbit Monoclonal Antibody  
901-3219-071018

**BIOCARE**  
M E D I C A L

<b>Catalog Number:</b>	<b>ACI 3219 A, C</b>	<b>API 3219 AA</b>
<b>Description:</b>	0.1, 1.0, ml concentrated	6.0 ml, prediluted
<b>Dilution:</b>	1:100	Ready-to-use
<b>Diluent:</b>	Renoir Red	N/A

## Intended Use:

For In Vitro Diagnostic Use

CD8 [C8/1779R] is a rabbit monoclonal antibody that is intended for laboratory use in the qualitative identification of CD8a protein by immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence should be complemented by morphological studies using proper controls and should be evaluated within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

## Summary and Explanation:

CD8 is a cell surface glycoprotein member of the immunoglobulin superfamily. CD8 consists of two chains, alpha and beta, which are expressed as a disulfide-linked alpha/beta heterodimer or as an alpha/alpha homodimer on a subset of T-cells, thymocytes and NK cells (1). The majority of CD8+ T cells express CD8 as alpha/beta heterodimer. CD8 functions as a co-receptor in concert with T cell receptor for binding the MHC class I/peptide complex (1). CD8 has been shown to be an important marker to analyze T-cell mediated inflammatory dermatoses, is useful for analysis of mycosis fungoides and other T cell lymphomas, and plays a critical role in anti-tumor responses and tumor microenvironment (2-4).

## Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, an enzyme labeled polymer is added to bind to the primary antibody. This detection of the bound antibody is evidenced by a colorimetric reaction.

**Source:** Rabbit monoclonal

**Species Reactivity:** Human

**Clone:** C8/1779R

**Isotype:** IgG/kappa

**Total Protein Concentration:** ~10 mg/ml. Call for lot specific Ig concentration.

**Epitope/Antigen:** Recombinant full-length human CD8a protein

**Cellular Localization:** Cell surface

**Positive Tissue Control:** Tonsil

## Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative

## Storage and Stability:

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

## Protocol Recommendations:

**Peroxide Block:** Block for 5 minutes with Biocare's Peroxidized 1.

**Pretreatment:** Perform heat retrieval using Biocare's Diva Decloaker. Refer to the Diva Decloaker data sheet for specific instructions.

**Protein Block (Optional):** Incubate for 5-10 minutes at RT with Biocare's Background Punisher.

**Primary Antibody:** Incubate for 30 minutes at RT.

**Probe:** N/A

**Polymer:** Incubate for 30 minutes at RT with a secondary-conjugated polymer.

## Protocol Recommendations Cont'd:

**Chromogen:** Incubate for 5 minutes at RT with Biocare's DAB -OR- Incubate for 5-7 minutes at RT with Biocare's Warp Red.

## Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

## Technical Notes:

1. This antibody has been standardized with Biocare's MACH 4 detection system. Use TBS for washing steps.

2. This antibody stains normal colonic mucosa

## Performance Characteristics:

Sensitivity, specificity and cross-reactivity are summarized in Tables 1 and 2, respectively.

## Limitations:

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions. The clinical interpretation of any positive or negative staining should be evaluated within the context of clinical presentation, morphology and other histopathological criteria by a qualified pathologist. The clinical interpretation of any positive or negative staining should be complemented by morphological studies using proper positive and negative internal and external controls as well as other diagnostic tests.

## Quality Control:

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA USA ([www.clsi.org](http://www.clsi.org)). 2011

## Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN<sub>3</sub>) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (5)

2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (6)

3. Microbial contamination of reagents may result in an increase in nonspecific staining.

4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.

5. Do not use reagent after the expiration date printed on the vial.

6. The SDS is available upon request and is located at <http://biocare.net>.

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## Troubleshooting:

Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542-2002.

## References:

1. Williamson SL, *et al.* New monoclonal antibodies to the T cell antigens CD4 and CD8. Production and characterization in formalin-fixed paraffin-embedded tissue. *Am J Pathol.* 1998 Jun;152(6):1421-6.
2. Deguchi M, *et al.* Proliferative activity of CD8(+) T cells as an important clue to analyze T cell-mediated inflammatory dermatoses. *Arch Dermatol Res.* 2001 Sep;293 (9):442-7.
3. Izbán KF, *et al.* Immunohistochemical analysis of mycosis fungoides on paraffin-embedded tissue sections. *Mod Pathol.* 1998 Oct;11(10):978-82.
4. Taube, JM, *et al.* Implications of the tumor immune microenvironment for staging and therapeutics. *Mod Pathol.* 2018;31:214-34.
5. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
6. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

**Table 1:** Sensitivity and specificity were determined by testing formalin-fixed, paraffin-embedded diseased tissues.

Tissue	Positive Cases	Total Cases
Bladder Cancer	0	9
Breast Cancer	0	10
Colon Cancer	0	6
Lung Cancer	0	8
Prostate Cancer	0	5
Renal Cancer	0	8
Kidney Cancer	0	10

**Table 2:** Tissue cross-reactivity was determined by testing formalin-fixed, paraffin-embedded normal tissues.

Tissue	Positive Cases	Total Cases
Cerebrum	0	2
Cerebellum	0	3
Adrenal Gland	0	2
Ovary	0	1
Pancreas	0	3
Parathyroid	0	1
Pituitary	0	1
Testis	0	1
Thyroid	0	3
Breast	0	3
Spleen	3	3
Tonsil	6	6
Thymus	1	1
Lung	0	3
Heart	0	3
Esophagus	0	1
Stomach	0	3
Small Intestine	0	3
Colon*	0	3
Liver	0	7
Salivary Gland	0	3
Kidney	0	10
Prostate	0	2
Uterus	0	2
Cervix	0	2
Skeletal Muscle	0	2
Peripheral Nerve	0	2
Lining Cells	0	1

\*This antibody stains colonic mucosa