

## Product datasheet

### Anti-CD38 antibody [EPR4106] $\alpha$ b108403

KO VALIDATED

Recombinant

RabMAb

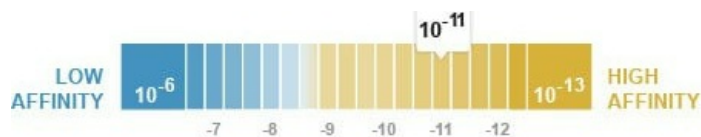
[1 Abreviews](#) [16 References](#) [14 Images](#)

#### Overview

Product name	Anti-CD38 antibody [EPR4106]
Description	Rabbit monoclonal [EPR4106] to CD38
Host species	Rabbit
Specificity	Not suitable for mouse and rat samples because antibody shows a non-specific cytoplasmic staining in almost all tested mouse and rat tissues.
Tested applications	<b>Suitable for:</b> WB, IHC-P, Flow Cyt <b>Unsuitable for:</b> ICC/IF
Species reactivity	<b>Reacts with:</b> Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Raji and Ramos cell lysates, Human lymph node lysate. IHC-P: Human endometrial adenocarcinoma, tonsil, lymph node, skeletal muscle and normal colon tissues. Flow Cyt: Raji cells.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p> <p>Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.</p>

#### Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Stable for 12 months at -20°C.
Dissociation constant (K <sub>D</sub> )	K <sub>D</sub> = 1.40 x 10 <sup>-11</sup> M



[Learn more about K<sub>D</sub>](#)

<b>Storage buffer</b>	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol, 0.05% BSA, PBS
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR4106
<b>Isotype</b>	IgG

## Applications

**The Abpromise guarantee** Our [Abpromise guarantee](#) covers the use of ab108403 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

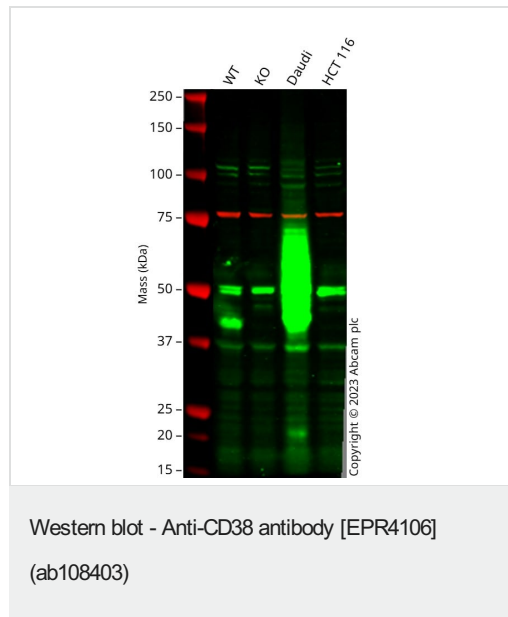
Application	Abreviews	Notes
<b>WB</b>		1/2000. Detects a band of approximately 45 kDa (predicted molecular weight: 34 kDa). <b>For unpurified use at 1/1000 - 1/10000.</b>
<b>IHC-P</b>		1/500 - 1/1000. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See <a href="#">IHC antigen retrieval protocols</a> . <b>For unpurified use at 1/100 - 1/250.</b>
<b>Flow Cyt</b>		1/10 - 1/100. <b>ab172730</b> - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

**Application notes** Is unsuitable for ICC/IF.

## Target

<b>Function</b>	Synthesizes cyclic ADP-ribose, a second messenger for glucose-induced insulin secretion. Also has cADPr hydrolase activity. Also moonlights as a receptor in cells of the immune system.
<b>Tissue specificity</b>	Expressed at high levels in pancreas, liver, kidney, brain, testis, ovary, placenta, malignant lymphoma and neuroblastoma.
<b>Sequence similarities</b>	Belongs to the ADP-ribosyl cyclase family.
<b>Developmental stage</b>	Preferentially expressed at both early and late stages of the B and T-cell maturation. It is also detected on erythroid and myeloid progenitors in bone marrow, where the level of surface expression was shown to decrease during differentiation of blast-forming unit E to colony-forming unit E.
<b>Cellular localization</b>	Membrane.

## Images



**All lanes :** Anti-CD38 antibody [EPR4106] (ab108403) at 1/2000 dilution

**Lane 1 :** Wild-type A549 cell lysate

**Lane 2 :** CD38 knockout A549 cell lysate

**Lane 3 :** Daudi cell lysate

**Lane 4 :** HCT 116 cell lysate

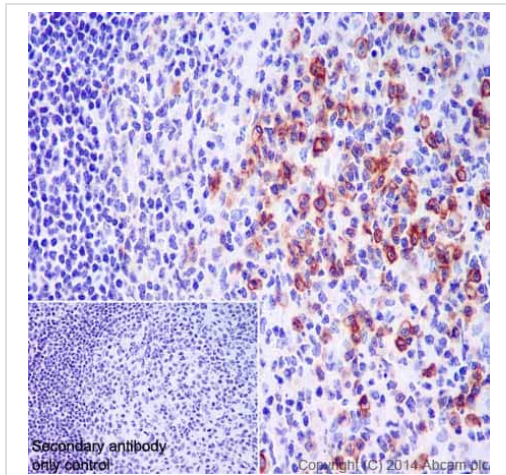
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

**Predicted band size:** 34 kDa

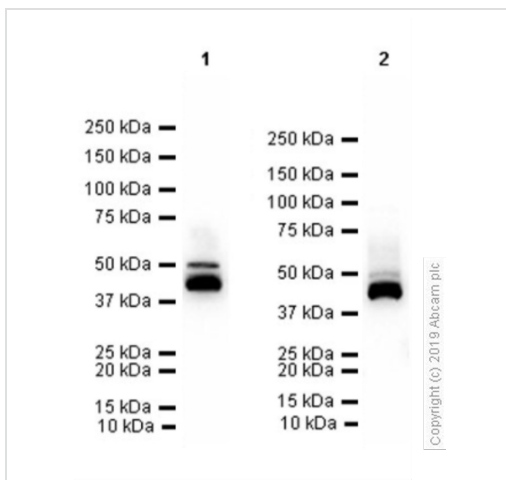
**Observed band size:** 42 kDa

Anti-CD38 antibody [EPR4106] staining at 1/2000 dilution, shown in green; Mouse anti-CANX [CANX/1543] ([ab238078](#)) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab108403 was shown to bind specifically to CD38. A band was observed at 42 kDa in wild-type A549 cell lysates with no signal observed at this size in CD38 knockout cell line. To generate this image, wild-type and CD38 knockout A549 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD38 antibody [EPR4106] (ab108403)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling CD38 with purified ab108403 at 1/500. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. **ab97051**, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Western blot - Anti-CD38 antibody [EPR4106] (ab108403)

**Lane 1 :** Anti-CD38 antibody [EPR4106] (ab108403) at 1/200 dilution

**Lane 2 :** Anti-CD38 antibody [EPR4106] (ab108403) at 1/1000 dilution

**Lane 1 :** Raji (Human Burkitt's lymphoma B lymphocyte), Whole cell lysate

**Lane 2 :** Ramos (Human Burkitt's lymphoma B lymphocyte), Whole cell lysate

Lysates/proteins at 20 µg per lane.

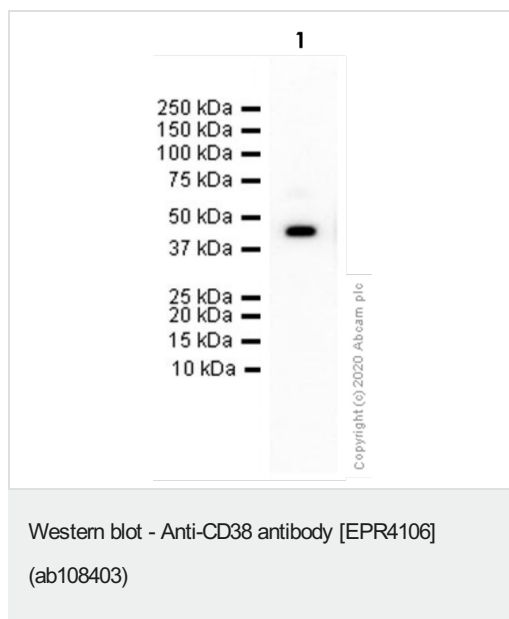
### Secondary

**All lanes :** Goat Anti-Rabbit IgG<sub>1</sub>(H+L), Peroxidase conjugated (**ab97051**) at 1/20000 dilution

**Predicted band size:** 34 kDa

Buffer and concentration: 5% NFDM/TBST

Exposure time, Lane 1: 20 seconds, Lane 2: 30 seconds



Anti-CD38 antibody [EPR4106] (ab108403) at 1/3000 dilution +  
Human lymph node lysate at 20 µg

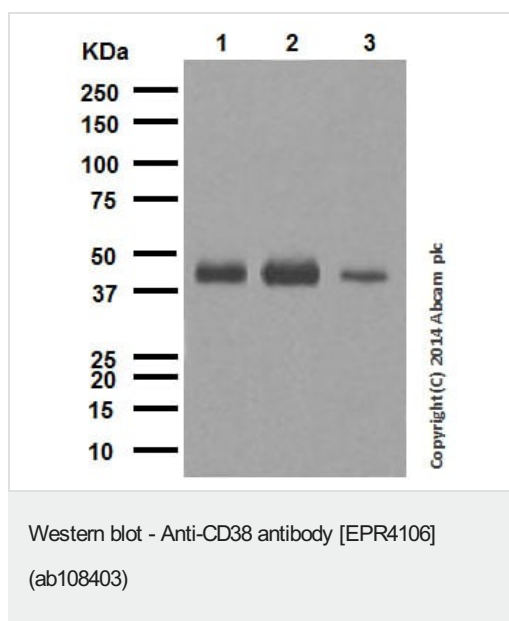
### Secondary

Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with  
human IgG at 1/2000 dilution

**Predicted band size:** 34 kDa

**Exposure time:** 80 seconds

Buffer and concentration: 5% NFDM/TBST



**All lanes :** Anti-CD38 antibody [EPR4106] (ab108403) at 1/2000  
dilution (purified)

**Lane 1 :** HuT-78 cell lysate

**Lane 2 :** Human fetal thymus tissue lysate

**Lane 3 :** Raji cell lysate

Lysates/proteins at 20 µg per lane.

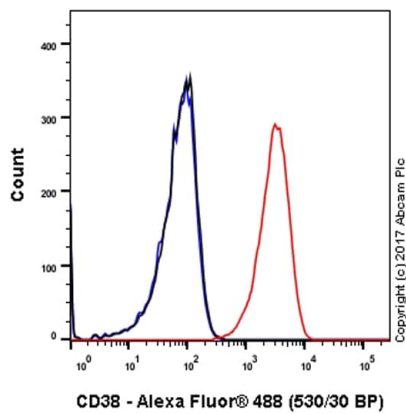
### Secondary

**All lanes :** Peroxidase conjugated goat anti-rabbit IgG (H+L) at  
1/1000 dilution

**Predicted band size:** 34 kDa

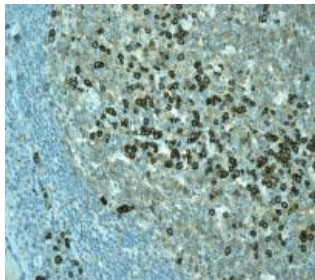
**Observed band size:** 45 kDa

Blocking and dilution buffer: 5% NFDM/TBST.



Flow Cytometry - Anti-CD38 antibody [EPR4106]  
(ab108403)

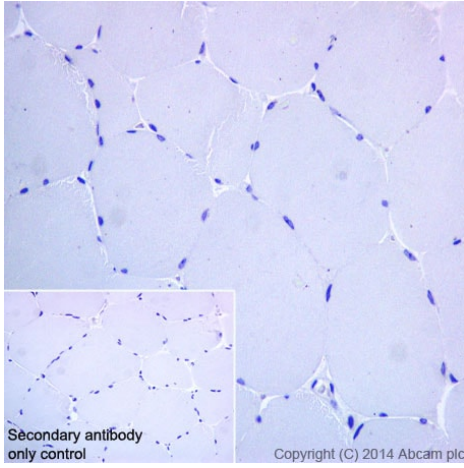
Flow cytometry analysis of Raji (Human Burkitt's lymphoma B lymphocyte) cells labelling CD38 with ab108403 at 1/900 dilution (1.03 µg/ml) (Red). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) was used as the secondary antibody at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (**ab172730**) (Black). Unlabeled control - Unlabelled cells (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD38 antibody  
[EPR4106] (ab108403)

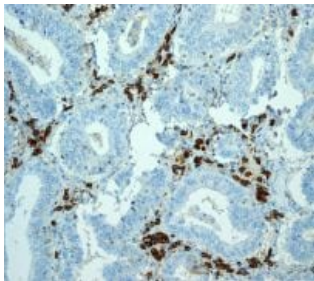
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling CD38 with unpurified ab108403 at a dilution of 1/100.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



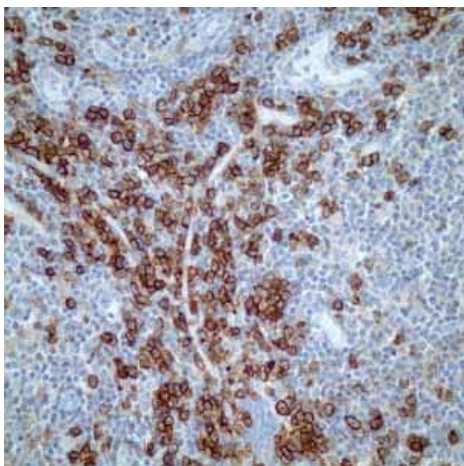
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD38 antibody  
[EPR4106] (ab108403)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human skeletal muscle tissue labelling CD38 with purified ab108403 at 1/500. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. [ab97051](#), a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD38 antibody  
[EPR4106] (ab108403)

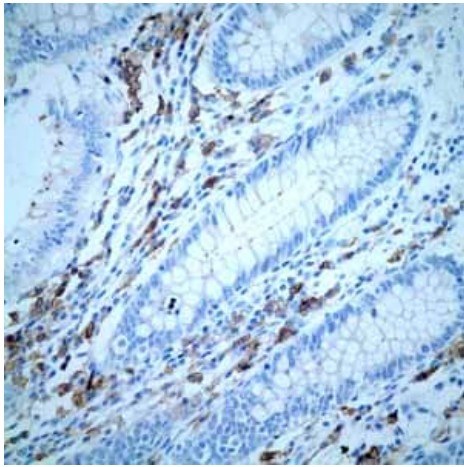
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human endometrial adenocarcinoma tissue labelling CD38 with unpurified ab108403 at a dilution of 1/100.  
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD38 antibody  
[EPR4106] (ab108403)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human lymph node tissue labelling CD38 with unpurified ab108403.  
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

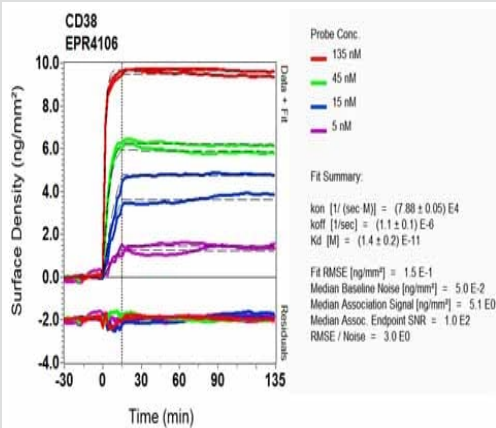




Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD38 antibody  
[EPR4106] (ab108403)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of normal human colon tissue labelling CD38 with unpurified ab108403.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Ox-LD Scanning - Anti-CD38 antibody [EPR4106]  
(ab108403)

Equilibrium dissociation constant ( $K_D$ )

Learn more about  $K_D$

[Click here to learn more about  \$K\_D\$](#)



Tissue Microarray (TMA) data for ab108403					
Normal tissue samples			Malignant tissue samples		
Human cardiac muscle	x	Human placenta	x	Human glioma	x
Human cerebrum	x	Human skeletal muscle	x	Human hepatocellular carcinoma	x (immune cells ✓)
Human colon	x (immune cells ✓)	Human skin	x	Human lung carcinoma	x (immune cells ✓)
Human endometrium	x (immune cells ✓)	Human spleen	✓	Human cervical carcinoma	x (immune cells ✓)
Human kidney	x	Human stomach	x (immune cells ✓)	Human chronic tonsil	x (immune cells ✓)
Human liver	x (immune cells ✓)	Human testis	x	Human colon carcinoma	x (immune cells ✓)
Human lung	x	Human thyroid	x	Human endometrial carcinoma	x (immune cells ✓)
Human mammary gland	x (immune cells ✓)	Human tonsil	✓	Human gastric adenocarcinoma	x (immune cells ✓)
Human pancreas	x (immune cells ✓)			Human thyroid carcinoma	x

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD38 antibody  
[EPR4106] (ab108403)

Tissue Microarrays stained for "Anti-CD38 antibody [EPR4106]" using "ab108403" in immunohistochemical analysis. This table provides a detailed overview of positive (tick mark) and negative (cross mark) staining per sample type tested. The sections were pre-treated using Heat mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0). The sections were incubated with ab108403 at +4°C overnight followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP polymer).

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Recombinant technology

**Success from the first experiment**  
Confirmed specificity

**Ethical standards compliant**  
Animal-free production

Anti-CD38 antibody [EPR4106] (ab108403)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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