**Anti-Bcl-10 (Human) mAb**

**BACKGROUND:** Bcl-10 (also known as CLAP/CIPER/cE10/CARMEN) was cloned from break point of (1;14)(p22;q32) translocation which is shown in low grade MALT lymphomas (B cell lymphomas of mucosa-associated lymphoid tissue). This molecule has been reported to encode a protein of 233 amino acids containing CARD (caspase recruitment domain) in 13-101 aa, and CARD family of proteins such as CARD9, CARD10, CARD11 and CARD14. It is found that Bcl-10 has an important role for antigen receptor signaling in B and T cells to NF-κB activation from the study using Bcl-10 knockout mice. Bcl-10 transgenic mice showed specific expansion of marginal zone B-cells in the spleen. This observation suggests strong expression of Bcl-10 by (1;14)(p22;q32) translocation is important for lymphomagenesis of MALT lymphoma.

mRNA expression of Bcl-10 is commonly shown in normal tissues but highly expressed in lymphoid tissues, and also highly expressed in MALT lymphomas. The expression of the protein and its cellular localization were studied by immunostaining using anti-Bcl-10 monoclonal antibody by Ming-Qing Du et al. They reported that Bcl-10 was expressed in lymphoid tissue but not in various other tissues with the exception of breast, and it is localized in cytoplasm, while strong Bcl-10 expression in both nucleus and cytoplasm was found in MALT lymphomas with (1;14)(p22;q32) translocation. Furthermore, they also reported that nuclear Bcl-10 expression also occurs frequently in MALT lymphomas without t(1;14)(p22;q32), and t(11;18)(q21;q21) closely correlated with Bcl-10 nuclear expression. These results suggest that nuclear Bcl-10 expression may be important in the development and advancement of MALT lymphoma. Recently, it has been found that Bcl-10 and MALT1 form a complex within the cell, and these proteins synergize in the activation of NF-κB. MALT1 has been known to be involved in MALT lymphoma associated t(11;18)(q21;q21), which cause expression of fusion product between the N-terminal API2 and C-terminal MALT1. API-MALT1 fusion protein has been also reported to strongly activate NF-κB. These observations suggest unrelated translocations may contribute to the same malignant process.

**SOURCE:** This antibody was concentrated from hybridoma (clone 151) supernatant. This hybridoma was established by fusion of mouse myeloma cell NSO with Balb/c mouse splenocyte immunized with the recombinant full-length human Bcl-10 protein.

**MONOCLONAL ANTIBODY**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Clone</th>
<th>Subclass</th>
<th>Quantity</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>K0021-1H</td>
<td>151</td>
<td>Mouse IgG1κ</td>
<td>6 mL</td>
<td>Ready for use</td>
</tr>
</tbody>
</table>

**FOR FORMULATION:** 6 mL volume of pre-diluted antibody in 20 mM HEPES, containing 135 mM NaCl, 1% BSA and 0.09% NaN3.

*Azide may react with copper or lead in plumbing system to form explosive metal azides. Therefore, always flush plenty of water when disposing materials containing azide into drain.

**STORAGE:** This antibody solution is stable for 3 years from the date of manufacture when stored at 4°C.

**REACTIVITY:** This antibody reacts with Bcl-10 on Immunohistochemistry. Clone 151 recognizes amino acids 122-168 of human Bcl-10.

**APPLICATION:**

- Immunohistochemistry: Ready for use
- Heat treatment is necessary for paraffin embedded sections.
- Microwave oven; 2 times for 10 minutes each in 10 mM citrate buffer (pH 6.5)

Detailed procedure is provided in the following **PROTOCOL**.

**SPECIES CROSS REACTIVITY:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Human</th>
<th>Mouse</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tissue and Cell</td>
<td>Tonsil, lymphoid tissue, Jurkat</td>
<td>Not Tested</td>
<td>Not Tested</td>
</tr>
<tr>
<td>Reactivity on IHC</td>
<td>+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Entrez Gene ID:**

8915 (Human)

**INTENDED USE:**

For Research Use Only. Not for use in diagnostic procedures.

**RELATED PRODUCTS:**

- K0021-1 Anti-Bcl-10 (Human) mAb (151)
- D038-3 Anti-Bcl-2 mAb (83-8B)
- D038-5 Anti-Bcl-2 mAb-PE (83-8B)
- K0154-3 Anti-Bcl-2 mAb (10C4)
- D086-3 Anti-ASC (TMS1) (Human) mAb (23-4)
- 8460 Histostar™ (Ms + Rb) for Human tissue (15 mL)
- 8460A Histostar™ (Ms + Rb) for Human tissue (1 mL)
REFERENCES:


Clone 151 is used in reference number 1) - 6), 9) - 11).

**Immunohistochemical detection of Bcl-10 in human tonsil paraffin embedded section with K0021-1H.**

**Immunohistochemical detection of Bcl-10 on Jurkat cells paraffin embedded section with K0021-1H.**

PROTOCOLS:

**Immunohistochemical staining for paraffin-embedded sections**

1) Deparaffinize the sections with Xylene 3 times for 3-5 minutes each.
2) Wash the slides with Ethanol 3 times for 3-5 minutes each.
3) Wash the slides with PBS 3 times for 3-5 minutes each.
4) Heat treatment

   **Heat treatment by Microwave:**
   Place the slides put on staining basket in 500 mL beaker with 500 mL of 10 mM citrate buffer (pH 6.5). Cover the beaker with plastic wrap, then process the slides 2 times for 10 minutes each at 500 W with microwave oven. Let the slides cool down in the beaker at room temperature for about 40 minutes.
5) Remove the slides from the citrate buffer and cover each section with 3% H2O2 for 10 minutes at room temperature to block endogenous peroxidase activity. Wash 5 min with running water.
6) Wash 3 times in PBS for 5 minutes each.
7) Remove the slides from PBS, wipe gently around each section and cover tissues with blocking buffer (1%BSA, 20mM HEPES, 135mM NaCl) for 10 minutes to block non-specific staining. Do not wash.
8) Tip off the blocking buffer, wipe gently around each section and cover tissues with anti-Bcl-10 monoclonal antibody (ready for use).
9) Incubate the sections for 1 hour at room temperature.
10) Wash the slides 3 times in PBS for 5 minutes each.
11) Wipe gently around each section and cover tissues with Histostar™ (Ms + Rb) (MBL; code no. 8460). Incubate for 30 min. at room temperature.
12) Wash the slides 3 times in PBS for 5 min. each.
13) Visualize by reacting for 10 min. with Histostar™ DAB Substrate Solution (MBL; code no. 8469). *DAB is a suspect carcinogen and must be handled with care. Always wear gloves.
14) Wash the slides in water for 5 min.
15) Counter stain in hematoxylin for 1 min., wash the slides 3 times in water for 5 min. each, and then immerse the slides in PBS for 5 min.
16) Dehydrate by immersing in Ethanol 3 times for 5 min. each, followed by immersing in Xylene 3 times for 5 min. each. Now ready for mounting.

(Positive control for Immunohistochemistry; human tonsil)