Cat.No. HS-413 103; Polyclonal rabbit antibody, 200 µl specific antibody (lyophilized)

**Data Sheet**

<table>
<thead>
<tr>
<th>Reconstitution/Storage</th>
<th>200 µl specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For reconstitution add 200 µl H₂O. Then aliquot and store at -20°C until use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>IHC-P/FFPE: 1 : 100</td>
</tr>
<tr>
<td>Immunogen</td>
<td>Synthetic peptide corresponding to AA 44 to 64 from mouse CD3e (UniProt Id: P22646)</td>
</tr>
<tr>
<td>Reactivity</td>
<td>Reacts with: mouse (P22646). No signal: human (P07766), rat (D4ASM2). Other species not tested yet.</td>
</tr>
<tr>
<td>Specificity</td>
<td>Specific for mouse CD 3e without cross-reactivity to human and rat CD 3e.</td>
</tr>
</tbody>
</table>

**Selected General References**

CD3 immunohistochemical staining in diagnosis of lymphocytic colitis.
Fiehn AM, Engel U, Holck S, Munck LK, Engel PJ

T cell activation.
Smith-Garvin JE, Koretzky GA, Jordan MS

Lymphocytic and collagenous colitis: an immunohistochemical study.
Mosnier JF, Larvol L, Barge J, Dubois S, De La Bigne G, Hénin D, Cerf M

CD3: structure, function, and role of immunostaining in clinical practice.
Chetty R, Gatter K

Cluster of differentiation 3 (CD3) is a defining feature of cells belonging to the T cell lineage. It is composed of the four subunits CD3 gamma, CD3 delta, CD3 epsilon (CD3e) and CD3 zeta, which form a multimeric protein complex. This complex associates with the T cell receptor (TCR) and serves as a T cell co-receptor.

The CD3 molecules contain immunoreceptor tyrosine-based activation motifs (ITAMs) that serve as the nucleating point for the intracellular signal transduction machinery upon TCR engagement. TCR/CD3 signaling is central to the initiation of antigen-specific T cell responses to pathogens and vaccines, as well as transplanted tissues, tumors, and autoantigens. CD3 is initially expressed in the cytoplasm of pro-thymocytes. During T cell maturation the expression of CD3 migrates to the cell membrane. The specific appearance at all stages of T cell development make CD3 a useful immunohistochemical marker for T cells in tissue sections.

In the clinical setting, CD3 is a relevant marker for the classification of malignant lymphomas and leukemias as the antigen remains present in almost all T-cell lymphomas and leukemias. It can also be used to detect T cells in celiac disease, lymphocytic and collagenous colitis.