

CD 3e

Cat.No. HS-413 003; Polyclonal rabbit antibody, 200 µl specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl specific antibody, lyophilized. Affinity purified with the immunogen. For reconstitution add 200 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	IHC-P/FFPE: 1 : 100
Immunogen	Synthetic peptide corresponding to AA 160 to 172 from mouse CD3e (UniProt Id: P22646)
Reactivity	Reacts with: mouse (P22646), rat (D4A5M2), human (P07766). Other species not tested yet.
Specificity	Specific for CD 3e

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

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.

Selected General References

CD3 immunohistochemical staining in diagnosis of lymphocytic colitis.
Fiehn AM, Engel U, Holck S, Munck LK, Engel PJ
Human pathology (2016) 48: 25-31.

T cell activation.
Smith-Garvin JE, Koretzky GA, Jordan MS
Annual review of immunology (2009) 27: 591-619.

Lymphocytic and collagenous colitis: an immunohistochemical study.
Mosnier JF, Larvol L, Barge J, Dubois S, De La Bigne G, Hénin D, Cerf M
The American journal of gastroenterology (1996) 91(4): 709-13.

CD3: structure, function, and role of immunostaining in clinical practice.
Chetty R, Gatter K
The Journal of pathology (1994) 173(4): 303-7.