

Product Information

Anti-Human T Cell CD3 Peptide

Developed in Rabbit
Delipidized Whole Antiserum

Product Number **C7930**

Product Description

Anti-Human T Cell CD3 Peptide is developed in rabbit using a synthetic human CD3 peptide (residues 156-168 of the CD3 ϵ chain) coupled to porcine thyroglobulin as the immunogen. The antiserum has been treated to remove lipoproteins. Antibodies to thyroglobulin are largely depleted by solid phase immunoadsorption.

Anti-Human T Cell CD3 Peptide is reactive with T cell areas in lymphoid tissues derived from various species: human, bovine, porcine, sheep, cat, dog, rat, mouse, *Psammomys* (sand rat), and chicken. The antibody may be used in immunoblotting. The molecular weight of the polypeptide recognized by the antibody in bovine and swine extracts is 20 kDa.² The antibody may also be used to stain T cell areas in immunohistology. The antibody may contain residual antibodies to thyroglobulin and may exhibit minimal background staining of epithelial and muscle tissues.¹

CD3 is a human cell surface glycoprotein complex consisting of at least five different polypeptide chains, (γ [25-28 kDa], λ [20 kDa], ϵ [20 kDa], ζ [16 kDa], and μ [22 kDa]).^{3,4} These chains are closely associated with each other and also with α/β or γ/δ T cell antigen receptor, and are involved in signal transduction following binding of antigen receptor. The CD3 antigen is expressed during thymopoiesis and on mature T cells in the periphery. It is also present in the majority of T-CLL and T-lymphomas and in approximately 70% of T-ALL. Cytoplasmic CD3 was recently demonstrated in 95% of thymocytes and in all T-ALL including those in which surface membrane CD3 was absent.^{5,6} Cerebellar Purkinje cells were also reported to express the antigen.⁷ B lymphocytes, monocytes, granulocytes and NK cells do not express it.

Anti-Human T Cell CD3 Peptide was first described by Mason et al.¹ The antibody reacts with the proline rich peptide sequence comprising 13 amino acids in the cytoplasmic domain of the CD3 ϵ chain. It detects normal,

reactive and most neoplastic human T cells in routinely processed enzyme predigested formalin-fixed, paraffin-embedded tissue sections. It is also reactive with human tissues fixed with Bouin's solution and embedded in paraffin. Frozen sections and smears are also suitable for staining with antibody.

The antibody may be used for studying:

1. Identification of T lymphocytes in peripheral blood and tissues.
2. Detection and classification of T-ALL, lymphomas and immunodeficiencies.
3. Studies on detection and purification of CD3 from lymphocytes of different species.

Reagent

Anti-Human T Cell CD3 Peptide is supplied as liquid containing 0.1% sodium azide.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is **not** recommended. Storage in "frost-free" freezers is **not** recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

By immunoblotting, the antibody stains a single band at 20 kDa using an extract of mouse thymus.

In order to obtain the best results, it is recommended that each individual user determine their optimum working dilution by titration.

References

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3. Davis, M.M., Annu. Rev. Biochem., **59**, 475 (1990).
4. Allison, J.P., and Havran, W.L., Annu. Rev. Immunol., **9**, 679 (1991).
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6. Van Dongen, J.J., et al., Blood, **71**, 603 (1988).
7. Garson, J.A., et al., Nature, **298**, 375 (1982).

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