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Certificate of Analysis and Data Sheet Recombinant HIV-1 TAT, Biotinylated

Catalog No.
228-10747

Source
Escherichia Coli.

Introduction

Human immunodeficiency virus type-1 (HIV-1) regulatory Tat protein plays an essential role in viral replication and infectivity. The HIV-1 TAT is a molecule of 86 amino acids encoded by two exons. The product of the first exon is sufficient for the transactivation of the HIV-1 promoter. Biotin molecules can be coupled easily to either antigens (such as avidin, streptavidin, Fc binding proteins like Protein A or G) or antibodies and they can be used in a variety of detection systems.

Biotin can be conjugated to many proteins without significantly changing their biological activity. Biotin binds with high affinity to avidin, streptavidin and NeutrAvidin protein.

Every single protein can react with several molecules of biotin, each of which, in turn, can bind a molecule of avidin. This greatly increases the sensitivity of many assay procedures. The avidin-biotin interaction is the strongest known noncovalent biological interaction ($K_a = 10^{15} \text{ M}^{-1}$) between protein and ligand. The bond formation between biotin and avidin is very rapid and, once formed, withstands extremes of pH, organic solvents and other denaturing agents. The avidin-biotin complex can withstand up to 3 M guanidine•HCl. Biotin can be released by 8 M guanidine•HCl at pH 1.5, or by autoclaving.

Description

HIV-1 TAT Biotin Recombinant- produced in E.coli is a single, non-glycosylated, polypeptide chain containing 86 amino acids encoded by two exons and having a chain having a molecular mass of 14kDa and was biotinylated with NHS biotin.

Physical Appearance

Sterile Filtered colorless solution.

Formulation

1x PBS & 0.05% glycerol.

Stability

HIV-1 TAT biotin recombinant although stable at 4°C for 1 week, should be stored desiccated below -18°C.

Please prevent freeze-thaw cycles.

Purity

Greater than 90.0% as determined by HPLC analysis & SDS-PAGE.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Specificity

Immunoreactive with all sera of HIV-1 infected individuals.

Applications

HIV-1 TAT Biotin protein biotinylation is determined by Western Blotting and ELISA analysis using streptavidin–HRP conjugated as a detection reagent. Free biotin is eliminated by dialysis against PBS. Protein concentration is determined using a BIORAD protein assay.

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