

Anti-Transferrin Affibody[®] Molecule, Unconjugated

BACKGROUND

Transferrin is a single polypeptide chain glycoprotein with a molecular weight of 79.5 kDa. Transferrin (serotransferrin) circulates in the plasma, binds iron from donor cells and delivers it via the plasma to specific receptors on donor cells. The number of transferrin receptors varies according to the cells need for iron. The requirements for iron in the erythroid marrow and placenta are hundredfold greater than in other organs and transferrin is the only system available to meet this need. Transferrin is synthesized in the liver and consists of two domains each having a high affinity binding site for Fe³⁺. Transferrin is present in lymph and cerebrospinal fluid as well as in plasma. The plasma concentration range between 1.8-2.7 mg/ml but the concentration falls during iron overload and rises in iron deficiency states such as protein malnutrition, hemolysis and inflammation of various causes.

The Anti-Transferrin Affibody[®] molecule was selected against human transferrin. Cross reactivity with other species has not been tested. The Anti-Transferrin Affibody[®] molecule is an ideal capture molecule for ELISA assays and works very well for purification and depletion of transferrin from plasma. The Anti-Transferrin Affibody[®] molecule is modified with a unique C-terminal cysteine for directed singlepoint chemical modification, facilitating coupling to matrices.

PRODUCT INFORMATION

Product name: Anti-Transferrin Affibody[®] molecule, Unconjugated.

Catalog number:

500 µg: 10.1105.01.0005

5 mg: 10.1105.01.0050

Source: Recombinant protein produced in *E. coli*.

Specificity: Anti-Transferrin Affibody[®] molecule binds to human transferrin. Cross reactivity with other species has not been tested.

MW: 14.1 kDa

Theoretical pI: 8.5

Purity: >98% as determined by SDS-PAGE and RP-HPLC analysis.

Tested applications: Suitable as capture reagent in ELISA and in Affinity Chromatography.

Conjugation: The Affibody[®] molecule contains a unique C-terminal cysteine ideal for directed chemical modifications. However, tail-to-tail dimers are spontaneously generated via a disulfide bridge between the C-terminal cysteines. Prior to coupling via the C-terminal cysteine, the Affibody[®] molecule needs to be reduced to expose the reactive cysteine residue. Recommended reducing condition is 20 mM DTT at a pH above 7.5 and incubation at room temperature for 2 hours. Remove excess DTT by passage through a desalting column, not by dialysis.

Form: Lyophilized protein. Lyophilized from 10 mM NH₄HCO₃.

Storage: +4°C is recommended for lyophilized protein. For reconstituted protein in physiological buffer, short-term storage at +4°C is recommended. For long-term storage, the protein solution should be aliquoted and then stored at -20°C.

Shipping: At ambient temperature.

Stability: There is no decrease in performance of the reconstituted Affibody[®] molecule (1 mg/ml in PBS) after 10 repeated freeze and thaw cycles or after storage for 2 weeks in room temperature.

Product support: www.affibody.com/shop

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LIMITATIONS

Warranty: Affibody[®] products are warranted to meet stated product specifications and to confirm to label descriptions when used and stored properly. Unless otherwise stated, this warranty is limited to one year from date of sales for products used, handled and stored according to Affibody AB's instructions. Affibody AB's sole liability is limited to replacement of the product or refund of the purchase price. Affibody[®] products are supplied for research use only. They are not intended for medicinal, diagnostic or therapeutic use. Affibody[®] products may not be resold, modified for resale or used to manufacture commercial products without prior written approval from Affibody AB.

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Rev 061108