

AFP Protein, Human, Recombinant (His)

General Information

Synonyms:	α -fetoprotein;AFPDP;FETA;alpha-fetoprotein;HPAFP
Protein Construction:	A DNA sequence encoding the human AFP (P02771) (Met 1-Val 609) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Arg 19
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P02771
Molecular Weight:	67.9 kDa (predicted); 65 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	$\geq 95\%$ as determined by SDS-PAGE. $\geq 90\%$ as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a $0.22\ \mu\text{m}$ filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C . For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Alpha-fetoprotein (AFP) is classified as a member of the albuminoid gene superfamily consisting of albumin, AFP, vitamin D (Gc) protein, and alpha-albumin. AFP is a glycoprotein of 591 amino acids and a carbohydrate moiety. AFP is one of the several embryo-specific proteins and is a dominant serum protein as early in human embryonic life as one month, when albumin and transferrin are present in relatively small amounts. It is first synthesized in the human by the yolk sac and liver(1-2 months) and subsequently predominantly in the liver. A small amount of

AFP is produced by the GI tract of the human conceptus. It has been proved that AFP may reappear in the serum in elevated amounts in adult life in association with normal restorative processes and with malignant growth. Alpha-fetoprotein (AFP) is a specific marker for hepatocellular carcinoma (HCC), teratoblastomas, and neural tube defect (NTD).Cancer ImmunotherapyImmune CheckpointImmunoTherapyTargeted Therapy

Reference

Mizejewski GJ. (2001) Alpha-fetoprotein Structure and Function: Relevance to Isoforms, Epitopes, and Conformational Variants. *Exp Biol Med.* 226(5): 377-408.

Tomasi TB,et al.(1977) Structure and Function of Alpha-Fetoprotein. *Annual Review of Medicine.* 28: 453-65.

Leguy MC,et al.(2011) Assessment of AFP in amniotic fluid: comparison of three automated techniques. *Ann Biol Clin.* 69(4): 441-6.

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