

Alfafoetoprotein (AFP) Reference Standard

Cat. No. AFP-1H Lot. No. (See product label)

SPECIFICATION

Product Overview

Each sample is in lyophilised form and consists of purified AFP without additives. The material is kept under nitrogen gas in sealed glass ampoules.

Species

Human

Description

Alpha-fetoprotein (AFP, α -fetoprotein; also sometimes called alpha-1-fetoprotein or alpha-fetoglobulin) is a protein that in humans is encoded by the AFP gene. AFP is a major plasma protein produced by the yolk sac and the liver during fetal development that is thought to be the fetal form of serum albumin. The AFP gene is located on the q arm of chromosome 4 (4q25). AFP binds to copper, nickel, fatty acids and bilirubin and is found in monomeric, dimeric and trimeric forms.

Applications

The material is intended to be used as a pure calibrant to establish traceability of serum-based reference materials which in turn will be employed in routine laboratory assays. If the material is used for calibration of in vitro diagnostic devices the commutability has to be assessed by the user.

Usage

To make the material ready for use, it has to be reconstituted according to the following procedure: Reconstitution buffer Phosphate Buffer Saline (PBS): 50 mmol/L phosphate buffer, pH=7.4, NaCl 0.8 g/L
 Reconstitution procedure
 1. Allow ampoule to equilibrate for at least 1 hour at room temperature prior to opening.
 2. After ensuring that the contents are entirely in the body of the ampoule, break the snap top.
 3. Slowly add 1.0 mL of the reconstitution buffer to the ampoule using a calibrated dilutor. The accuracy of the dispenser is required to be better than $\pm 0.5\%$ as assessed by

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multiple weighings of water.4. Swirl the ampoule gently and intermittently for five minutes to ensure complete dissolution of the contents. Following reconstitution, cover the ampoule with an airtight seal and store for no longer than 24 hours at 4 °C prior to its use. For dilution of the material the addition of a carrier protein is recommended.

Quality Control Test A combination of UV absorbency measurements and amino acid analysis

Notes The Hep G2 cell line used to produce the purified AFP material has been tested for the presence of Hepatitis B surface antigen and found negative. However, the material is of human origin and must be handled with adequate care. It is intended for in vitro analysis only.

Storage Upon arrival, the material shall be stored at -20 °C for not more than 12 months until use. However, the European Commission cannot be held responsible for changes that happen during storage of the material at the customer's premises, especially of opened samples.

Concentration AFP mass per ampoule: 100 µg

GENE INFORMATION

Gene Name [AFP alpha-fetoprotein \[Homo sapiens \]](#)

Official Symbol AFP

Synonyms AFP; alpha-fetoprotein; HPAFP; FETA; alpha-fetoglobulin; alpha-1-fetoprotein;

Gene ID [174](#)

mRNA Refseq [NM_001134](#)

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Protein Refseq	NP_001125
UniProt ID	P02771
Chromosome Location	4q11-q13
Pathway	Direct p53 effectors, organism-specific biosystem; FOXA2 and FOXA3 transcription factor networks, organism-specific biosystem; Glucocorticoid receptor regulatory network, organism-specific biosystem;
Function	metal ion binding;

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