

Human Thyroglobulin (Tg) Reference Standard

Cat. No. TG-4H Lot. No. (See product label)

SPECIFICATION

Product Overview	Each sample is in lyophilised form and equivalent to about 100 µL of purified Tg without additives. The material is kept under nitrogen gas in sealed glass ampoules.
Species	Human
Description	Thyroglobulin (TG) represents one of the main autoantigenic targets in autoimmune thyroid disease of humans. TG is a large globular dimeric glycoprotein which occupies a key precursor role in the biosynthesis of the thyroid hormones. Approximately 75% of the total protein content of the thyroid follicle consists of TG. The thyroid gland uses the Thyroglobulin in order to produce the thyroid hormones thyroxine (T4) and triiodothyronine (T3). Thyroglobulin is produced by the thyroid epithelial cells (thyrocytes) which form spherical follicles. Thyroglobulin is subsequently secreted and stored in the follicular lumen.
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 it ready for use, the material has to be reconstituted according to the following procedure: 1. Allow ampoule to equilibrate for 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 distilled water to the ampoule using a calibrated dilutor. The accuracy of the dispenser is required to be better than

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± 0.5% as assessed by 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 use.

Quality Control Test

Colorimetric Analysis according to Lowry: Lowry OH et al. 1951. J. Biol. Chem. 193:265-275.

Notes

The material has been tested for Hepatitis B surface antigen and for HIV-1/HIV 2 antibodies and found negative. However the material is of human origin and should be handled with adequate care. It is intended for in vitro analysis only.

Storage

Upon arrival the material shall be stored at -70 °C or lower for no 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

Tg: 0.324 g/L

GENE INFORMATION

Gene Name

TG thyroglobulin [Homo sapiens]

Official Symbol

TG

Synonyms

TG; thyroglobulin; AITD3; TGN;

Gene ID

7038

mRNA Refseq

NM_003235

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Protein Refseq	NP_003226
MIM	188450
UniProt ID	P01266
Chromosome Location	8q24
Pathway	Autoimmune thyroid disease, organism-specific biosystem; Autoimmune thyroid disease, conserved biosystem;
Function	NOT carboxylesterase activity; chaperone binding; hormone activity; NOT neurexin family protein binding; NOT receptor activity;

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