

Datasheet for ABIN2773773

T3, T4, TSH ELISA Kit**3** Images**2** Publications[Go to Product page](#)

Overview

Quantity: 192 tests

Target: T3, T4, TSH

Reactivity: Human

Method Type: Competition ELISA

Application: ELISA

Product Details

Purpose: Quantitative determination of Total Thyroxine, Total Triiodothyronine, Thyrotropin Concentration for a comprehensive thyroid status of Human Serum or Plasma Sample by a colorimetric Microplate ELISA

Sample Type: Plasma, Serum

Analytical Method: Quantitative

Detection Method: Colorimetric

Characteristics: Measurements of thyroid hormones (tT3, tT4 and TSH) are generally regarded as invaluable in-vitro diagnostic tests for assessing thyroid function. This importance has provided the impetus for the significant improvement in assay methodology that has occurred in the last three decades. This procedural evolution can be traced from the empirical protein bound iodine (PBI) test (1) to the theoretically sophisticated radioimmunoassay (2) and currently used EIA, ELISA, FIA and Chemiluminescence. The Combination Thyroid Panel (CTP) provides the convenience of combination calibrators, universal plate and flexible reagent selection allowing technicians to perform a variety of assay designs. In this method, serum reference, patient specimen, or control is first added to a microplate well. Enzyme-tT4 (tT3) conjugate and biotinylated tT4 or

Product Details

tT3 antibody are added, and the reactants are mixed. In the case of TSH, the biotinylated and enzyme conjugate are added in one step. A reaction results between the enzyme conjugate, biotinylated conjugate and the native thyroid hormone (tT3, tT4 or TSH) for the antibody combining sites. Immobilization takes place through the reaction of the incorporated biotin and streptavidin coated on the well. After the completion of the required incubation period, the bound enzyme conjugate is separated from the unbound enzyme conjugate by aspiration or decantation. The activity of the enzyme present on the surface of the well is quantitated by reaction with a suitable substrate to produce color. The employment of several serum references of known thyroid hormone concentration(s) permits construction of a graph of activity and concentration. From comparison to the dose response curve(s), an unknown specimen's activity can be correlated with hormone concentration.

Components:	A. Combi-Cal Thyroid Calibrator (1ml/vial). B. T4-Enzyme Reagent 1 ml/vial. C. T3-Enzyme Reagent 1 ml/vial. D. s- T3/T4 Buffer E. TSH Enzyme Reagent 20ml/vial F. Anti-T4 Biotin Reagent (7ml/vial). G. Anti-T3 Biotin Reagent (7ml/vial) H. Streptavidin Coated Microplate (2 x 96 wells) I. Wash Solution Concentrate (20ml). J. Substrate A (2 x 7ml/vial). K. Substrate B (2 x 7ml/vial). L. Stop Solution (2 x 8ml/vial). M. Product Insert
Material not included:	1. Pipette capable of delivering 25 and 50µl volumes with a precision of better than 1. 5%. 2. Dispenser(s) for repetitive deliveries of 0. 100ml and 0. 300ml volumes with a precision of better than 1. 5%. 3. Adjustable volume (20-200µl) and (200-1000µl) dispenser(s) for conjugate and substrate dilutions. 4. Microplate washer or a squeeze bottle (optional). 5. Microplate Reader with 450nm and 620nm wavelength absorbance capability. 6. Test tubes for dilution of enzyme conjugate and substrate A and B. 7. Absorbent Paper for blotting the microplate wells. 8. Plastic wrap or microplate cover for incubation steps. 9. Vacuum aspirator (optional) for wash steps. 10. Timer. 11. Quality Control Materials.

Target Details

Target:	T3, T4, TSH
Alternative Name:	T3, T4 & TSH

Application Details

Application Notes:	Precautions: All products that contain human serum have been found to be non-reactive for Hepatitis B Surface Antigen, HIV 1&2 and HCV Antibodies by FDA required tests. Since no known test can offer complete assurance that infectious agents are absent, all human serum products should be handled as potentially hazardous and capable of transmitting disease.
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Application Details

Good laboratory procedures for handling blood products can be found in the Center for Disease Control / National Institute of Health, Biosafety in Microbiological and Biomedical Laboratories, 2nd Edition, 1988, HHS Publication No. (CDC) 88-8395.

Comment: Sample Volume: T3/TSH: 50 µL, T4: 25 µL One Step (Equilibrium)

Plate: Pre-coated

Reagent Preparation: Working Reagent A equal tT4 or (tT3) - Enzyme Conjugate Solution: Dilute the tT4-enzyme conjugate (or T3-enzyme) 1:11 with Total T3tT4 conjugate buffer in a suitable container. For example, dilute 80µl of conjugate with 0.8ml of buffer for 16 wells (A slight excess of solution is made). This reagent should be used within twenty-four hours for maximum performance of the assay. Store at 2-8°C. General Formula: Amount of Buffer required equal Number of wells 0.05 Quantity of tT4 Enzyme necessary equal Number of wells (0.005 i. E. equal 16 x 0.05 equal 0.8ml for Total T3/T4 Conjugate buffer 16 x 0.005 equal 0.08ml (80µl) for tT4 or (tT3) enzyme conjugate. 2. Wash Buffer: Dilute contents of Wash Concentrate to 1000ml with distilled or deionized water in a suitable storage container. Store at room temperature 20-27 °C for up to 60 days. 3. Working Substrate Solution: Pour the contents of the vial labeled Solution A into the vial labeled Solution B. Mix and store at 2-8°C. Use within 60 days. Or for longer periods of usage determine the amount of reagent needed and prepare by mixing equal portions of Substrate A and Substrate B in a suitable container. For example, add 1ml of A and 1ml of B per two eight well strips (A slight excess of solution is made. Discard the unused portion). Note: Do not use the working substrate if it looks blue.

Sample Collection: The specimens shall be blood, serum or plasma in type and the usual precautions in the collection of venipuncture samples should be observed. For accurate comparison to established normal values, a fasting morning serum sample should be obtained. The blood should be collected in a plain redtop venipuncture tube without additives or anti-coagulants (for serum) or evacuated tube(s) containing EDTA or heparin. Allow the blood to clot for serum samples. Centrifuge the specimen to separate the serum or plasma from the cells. Samples may be refrigerated at 2-8°C for a maximum period of five days. If the specimen(s) cannot be assayed within this time, the sample(s) may be stored at temperatures of -20 °C for up to 30 days. Avoid repetitive freezing and thawing. When assayed in duplicate, 0.05ml of the specimen is required for tT4 and 0.10ml for tT3 and TSH.

Restrictions: For Research Use only

Handling

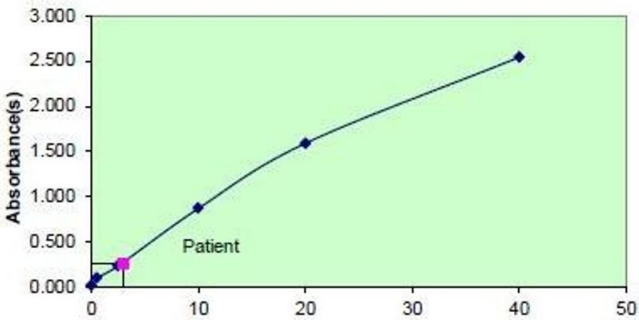
Storage: 4 °C/-20 °C

Publications

Product cited in: Trowbridge, Gerona, McMaster, Ona, Clarity, Bessonneau, Rudel, Buren, Morello-Frosch: " Organophosphate and Organohalogen Flame-Retardant Exposure and Thyroid Hormone Disruption in a Cross-Sectional Study of Female Firefighters and Office Workers from San Francisco." in: **Environmental science & technology**, Vol. 56, Issue 1, pp. 440-450, (2022) ([PubMed](#)).

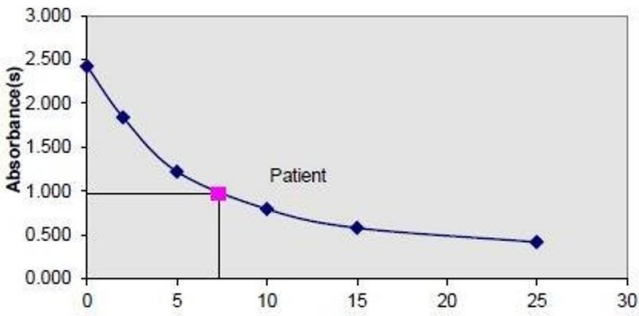
Pedrianes-Martin, Martin-Rincon, Morales-Alamo, Perez-Suarez, Perez-Valera, Galvan-Alvarez, Curtelin, de Pablos-Velasco, Calbet: "Treatment of hypertension with angiotensin-converting enzyme inhibitors or angiotensin receptor blockers and resting metabolic rate: A cross-sectional study." in: **Journal of clinical hypertension (Greenwich, Conn.)**, Vol. 23, Issue 12, pp. 2106-2114, (2021) ([PubMed](#)).

Images



ELISA

Image 1. TSH values in uIU/ml (Illustration only)



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Image 2. tT4 values in ug/dl (Illustration only)

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Image 3. tT3 values in ng/ml (Illustration only)

