

PRODUCT SPECIFICATIONS

Date: 2013-02-28

PRODUCT NAME	: Anti-Thyroxine 6901 SPTN-5
PRODUCT SPECIFICITY	: Antibody recognizes human Thyroxine
PRODUCT CODE	: 100348
PRODUCT BUFFER	: 50 mM Na-citrate, pH 6.0, 0.9 % NaCl, 0.1 % NaN ₃ as a preservative
SHELF LIFE AND STORAGE	: 36 months at 2-8 °C
ANALYTE DESCRIPTION	: Thyroxine, or 3,5,3',5'-tetraiodothyronine (often abbreviated as T ₄) is the major hormone secreted by the thyroid gland. T ₄ is transported in blood, with 99.95 % of the secreted T ₄ being protein bound, principally to thyroxine-binding globulin (TBG). T ₄ is involved in controlling the rate of metabolic processes in the body and influencing physical development. Thyroxine is a prohormone and a reservoir for the active thyroid hormone triiodothyronine (T ₃) which is about four times more potent.

PARAMETERS TESTED FROM EACH LOT

PRODUCT APPEARANCE	: Clear liquid
PRODUCT CONCENTRATION	: 5.00 mg/ml (+/- 10 %)
PRODUCT ACTIVITY	: 80-120 % compared to reference in an IFMA-test
IEF-RANGE	: 7.2 - 8.1
PURITY	: ≥ 95 %

PARAMETERS DETERMINED ONLY DURING PRODUCT R&D PHASE

CLASS AND SUBCLASS	: IgG ₁
ASSOCIATION CONSTANT	: N/D
DISSOCIATION CONSTANT	: N/D
AFFINITY CONSTANT	: 1 x 10 ¹⁰ l/mol
DETERMINATION METHOD	: Radioimmunoassay (RIA)
ANTIGEN	: T ₄ , Sigma (T-2501)
CROSS-REACTIVITIES	: T ₃ (3,3',5'-triiodothyronine) 1.5 % (Sigma T-2752) rT ₃ (3,3',5'-triiodothyronine, reverse T ₃) 1.5 % (Sigma T-0281) 3,5-diiodothyronine < 0.1 % (Sigma D-0629)

EPITOPE : N/D

EPITOPE GROUP : -

Two antibodies binding to the same, or closely located epitopes, belong to the same group and hence cannot be used as a pair in a sandwich assay. Epitope group numbering does not give any detailed information where the epitope is located.

PAIR RECOMMENDATIONS : **SOLID** **LABEL**
N/D

Please note that pair recommendations are based on results obtained in our laboratory. Equally good results may be obtained using other pairs and therefore these recommendations should be taken only as a directive.

PRODUCT STABILITY : **TEMPERATURE, DAYS** **RESULT**

Please note that the shelf life given on page one is based on real time stability testing at +2-8 °C in the product buffer.

-70 °C, 21 days	N/D
-20 °C, 21 days	OK
+4 °C, 21 days	OK
+30 °C, 21 days	OK, but charge changes
+35 °C, 7 days	OK, but charge changes
+35 °C, 21 days	Failed due to charge changes
+45 °C, 3 days	OK, but charge changes
+45 °C, 7 days	Failed due to charge changes

Stability testing is performed in the product buffer to see whether different temperatures affect the antigen binding, charge or composition of the antibody. The maximum duration of the test is 21 days, except for the +45 °C only 7 days.

pH, 14 DAYS, +4 °C **RESULT**

5.0	N/D
6.0	N/D
7.0	N/D
8.0	N/D

Stability testing is performed to see whether pH affects the antigen binding, charge or composition of the antibody during 14 days at +4 °C.

MISCELLANEOUS : In Zhang et al. (2002) authors combined a competitive immunoassay with inductively coupled plasma mass spectroscopy ICP-MS as a detection method to develop a total T₄-assay with a detection limit of 7.4 ng/mL in a 25 µl sample volume.

REFERENCES : Zhang, C., Wu, F., and Zhang X. (2002) ICP-MS-based competitive immunoassay for the determination of total thyroxin in human serum. J. Anal. At. Spectrom. 17:1304-1307

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