

Anti-Thyroxine 6901 SPTN-5

Product overview

Catalog number	100348
Specificity	Antibody recognizes human thyroxine
Description	Monoclonal mouse antibody, cultured <i>in vitro</i> under conditions free from animal-derived components.
Product buffer solution	50 mM Na-citrate, pH 6.0, 0.9 % NaCl, 0.095 % NaN ₃ as a preservative
Shelf life and storage	36 months from manufacturing at 2–8 °C
Subclass	IgG ₁
Analyte description	Thyroxine, or 3,5,3',5'-tetraiodothyronine (often abbreviated as T4) is the major hormone secreted by the thyroid gland. T4 is transported in blood, with 99.95 % of the secreted T4 being protein bound, principally to thyroxine-binding globulin (TBG). T4 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 (T3) which is about four times more potent.

Parameters tested on each lot

Product appearance	Liquid, may turn slightly opaque during storage
Product concentration	5.0 mg/ml (+/-10 %)
Immunoreactivity	80–120 % compared to the reference sample in an FIA test
IEF Profile	7.0–7.9
Purity	≥ 95 %

Kinetic parameters

Association rate constant	Not Determined (N/D)	1.2 x 10 ⁶ 1/Ms
Dissociation rate constant	N/D	9.3 x 10 ⁻⁵ 1/s
Affinity constant	1 x 10 ¹⁰ 1/M	K _A = 1.3 x 10 ¹⁰ 1/M K _D = 8.2 x 10 ⁻¹¹ M (= 0.08 nM)
Determination method	Radioimmunoassay (RIA)	BLI (Octet RED96e)
Determination antigen	T4, Sigma (Cat T-2501)	Thyroxine (T4) BSA Conjugate, Medix Biochemica (Cat 581-10)



Legal disclaimer

Cross-reactivities

T3 (3,3',5-triiodothyronine)	6.9 % (Sigma, Cat T2752)
rT3 (3,3',5'-triiodothyronine, reverse T3)	6.1 % (Sigma, Cat T0281)
3,5-diiodothyronine	< 0.1 % (Sigma, Cat D0629)

Epitope N/D

Pair recommendations

CAPTURE ANTIBODY	DETECTION ANTIBODY
-	-

Platforms tested FIA

Antigens tested Thyroxine (T4) antigen, BSA conjugate, Lee Biosolutions 581-10

Product stability

TEMPERATURE, TIME	RESULT
-70 °C, 21 days	N/D
-20 °C, 21 days	OK
+4 °C, 21 days	OK
+30 °C, 21 days	OK
+35 °C, 7 days	OK
+35 °C, 21 days	Charge alterations
+45 °C, 3 days	OK
+45 °C, 7 days	Charge alterations

Stability testing is performed in the product buffer to see whether different temperatures affect the antigen binding, charge or composition of the antibody. Please note that the shelf life given on the first page is based on real time stability testing at 2–8 °C in the product buffer.

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



Legal disclaimer