PRODUCT SPECIFICATIONS

Name
Anti-Thyroxine 6901 SPTN-5

Specificity
Antibody recognizes human thyroxine

Description
Monoclonal mouse antibody, cultured in vitro under conditions free from animal-derived components

Product code
100348

Product buffer solution
50 mM Na-citrate, pH 6.0, 0.9 % NaCl, 0.095 % NaN₃ as a preservative

Shelf life and storage
36 months from manufacturing at 2–8 °C

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 %

PARAMETERS DETERMINED DURING PRODUCT DEVELOPMENT

Subclass
IgG₁

Association rate constant
Not Determined (N/D)

Dissociation rate constant
N/D

Affinity constant
1 x 10¹⁰ l/mol

Determination method
Radioimmunoassay (RIA)

Determination antigen
T4, Sigma (Cat T-2501)
Cross-reactivities

<table>
<thead>
<tr>
<th>Substance</th>
<th>Cross-reactivity</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3 (3,3',5'-triiodothyronine)</td>
<td>1.5 %</td>
<td>Sigma, Cat T-2752</td>
</tr>
<tr>
<td>rT3 (3,3',5'-triiodothyronine, reverse T3)</td>
<td>1.5 %</td>
<td>Sigma, Cat T-0281</td>
</tr>
<tr>
<td>3,5-diiodothyronine</td>
<td>&lt; 0.1 %</td>
<td>Sigma, Cat D-0629</td>
</tr>
</tbody>
</table>

Epitope

N/D

Pair recommendations

<table>
<thead>
<tr>
<th>CAPTURE ANTIBODY</th>
<th>DETECTION ANTIBODY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Please note that pair recommendations are based on results obtained by our laboratory. Equally good results may be obtained using other pairs and therefore these recommendations are only indicative.

Product stability

<table>
<thead>
<tr>
<th>TEMPERATURE, TIME</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>-70 °C, 21 days</td>
<td>N/D</td>
</tr>
<tr>
<td>-20 °C, 21 days</td>
<td>OK</td>
</tr>
<tr>
<td>+4 °C, 21 days</td>
<td>OK</td>
</tr>
<tr>
<td>+30 °C, 21 days</td>
<td>OK, but some charge alterations</td>
</tr>
<tr>
<td>+35 °C, 7 days</td>
<td>OK, but some charge alterations</td>
</tr>
<tr>
<td>+35 °C, 21 days</td>
<td>Failed due to charge changes</td>
</tr>
<tr>
<td>+45 °C, 3 days</td>
<td>OK, but some charge alterations</td>
</tr>
<tr>
<td>+45 °C, 7 days</td>
<td>Failed due to charge changes</td>
</tr>
</tbody>
</table>

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