Human Thyroid Stimulating Hormone ELISA Kit (TSH)

**Overview**

**Product name**
Human Thyroid Stimulating Hormone ELISA Kit (TSH)

**Detection method**
Colorimetric

**Sample type**
Cell culture supernatant, Serum, Plasma

**Assay type**
Sandwich (quantitative)

**Sensitivity**
< 4 pg/ml

**Range**
2.744 pg/ml - 2000 pg/ml

**Recovery**
86%

**Sample specific recovery**

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell culture supernatant</td>
<td>82.76</td>
<td>70% - 90%</td>
</tr>
<tr>
<td>Serum</td>
<td>97.89</td>
<td>75% - 120%</td>
</tr>
<tr>
<td>Plasma</td>
<td>78.59</td>
<td>67% - 86%</td>
</tr>
</tbody>
</table>

**Assay duration**
Multiple steps standard assay

**Species reactivity**
Reacts with: Human

**Product overview**
Abcam’s TSH Human ELISA (Enzyme-Linked Immunosorbent Assay) kit is an in vitro enzyme-linked immunosorbent assay for the quantitative measurement of Human TSH in serum, plasma and cell culture supernatants.

This assay employs an antibody specific for Human TSH coated on a 96-well plate. Standards and samples are pipetted into the wells and TSH present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated anti-Human TSH antibody is added. After washing away unbound biotinylated antibody, HRP-conjugated streptavidin is pipetted to the wells. The wells are again washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of TSH bound. The Stop Solution changes the color from blue to yellow, and the intensity of the color is measured at 450 nm.

**Notes**
Optimization may be required with urine samples.

**Platform**
Microplate
Storage instructions
Store at -20°C. Please refer to protocols.

## Properties

### Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>200X HRP-Streptavidin Concentrate</td>
<td>1 x 200µl</td>
</tr>
<tr>
<td>20X Wash Buffer Concentrate</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>5X Assay Diluent B</td>
<td>1 x 15ml</td>
</tr>
<tr>
<td>Assay Diluent A</td>
<td>1 x 30ml</td>
</tr>
<tr>
<td>Biotinylated anti-Human TSH</td>
<td>2 vials</td>
</tr>
<tr>
<td>Recombinant Human TSH Standard (lyophilized)</td>
<td>2 vials</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 8ml</td>
</tr>
<tr>
<td>TMB One-Step Substrate Reagent</td>
<td>1 x 12ml</td>
</tr>
<tr>
<td>TSH Microplate (12 x 8 wells)</td>
<td>1 unit</td>
</tr>
</tbody>
</table>

### Relevance

Thyroid stimulating hormone, also known as thyrotropin, is secreted from cells in the anterior pituitary called thyrotrophs, finds its receptors on epithelial cells in the thyroid gland, and stimulates that gland to synthesize and release thyroid hormones. TSH is a glycoprotein hormone composed of two subunits which are non covalently bound to one another. The alpha subunit of TSH is also present in two other pituitary glycoprotein hormones, follicle stimulating hormone and luteinizing hormone, and, in primates, in the placental hormone chorionic gonadotropin. Each of these hormones also has a unique beta subunit, which provides receptor specificity. In other words, TSH is composed of alpha subunit bound to the TSH beta subunit, and TSH associates only with its own receptor. Free alpha and beta subunits have essentially no biological activity.

### Cellular localization

Secreted

### Images

Representative standard curve using ab100660

Typical standard curve
Representative standard curve using ab100660

Typical standard curve

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