

Rat transient receptor potential cation channel subfamily V; member 1 (TRPV1) ELISA kit-Quantitative competitive

Cat. No.:	0126WXX-2016
Assay Type:	Quantitative competitive ELISA
Target Species:	Rat
Assay Target:	TRPV1
Size:	48T; 96T

This product is for research use only and is not intended for diagnostic use.

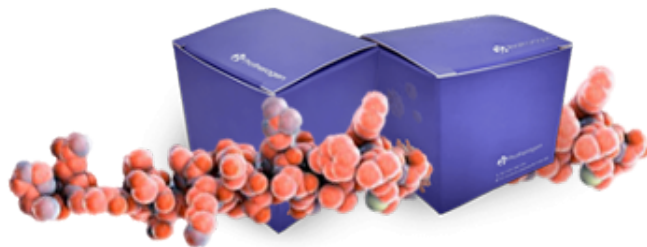
Product Overview

Description

Rat transient receptor potential cation channel subfamily V; member 1 (TRPV1) ELISA kit-Quantitative competitive is an ELISA-based *in vitro* research tool designed specifically for the quantitative detection of TRPV1 in rat samples with a minimum detectable dose (sensitivity) of 0.1 ng/mL. The kit is highly sensitive and easy to use.

Assay Principle

The TRPV1 ELISA kit employs a competitive enzyme immunoassay technique utilizing an anti-TRPV1 antibody and a TRPV1-HRP conjugate. Samples and assay buffers are co-incubated with the TRPV1-HRP conjugate in a pre-sensitized plate for sixty minutes. During this period, endogenous TRPV1 from the sample competes with the HRP-labeled conjugate for a finite number of antibody binding sites. After incubation, the wells are decanted and washed five times. An HRP-specific substrate is then introduced to form a blue complex, which turns yellow upon addition of a stop solution. The resulting color intensity, recorded at 450 nm, is inversely proportional to the TRPV1 concentration. A standard curve is generated to interpolate the concentration of TRPV1 in each specimen based on the optical density (O. D.).



Background

Transient receptor potential cation channel subfamily V member 1 (TRPV1) is a non-selective cation channel and receptor for capsaicin, functioning as a transducer of thermal and chemical stimuli in sensory neurons. By mediating calcium influx and downstream signaling, TRPV1 influences energy metabolism, thermogenesis, and appetite regulation. Altered TRPV1 activity has been associated with changes in metabolic rate and energy balance, linking it to obesity and related metabolic disorders.

Synonyms

Vanilloid receptor subtype 1; Capsaicin receptor; Osm-9-like TRP channel 1; Vanilloid receptor 1; VR1; OTRPC1

Formula Weight

94,956 Da

Applications

Rat transient receptor potential cation channel subfamily V, member 1 (TRPV1) ELISA kit-Quantitative competitive is used to quantify TRPV1 in serum, plasma, cell culture supernatants, body fluid, tissue homogenate of rat, providing data to support research in a wide range of areas, including signal transduction, obesity, and others.

Research Area

Signal transduction; Obesity

Specification

Sample Type

Serum; Plasma; Cell culture supernatants; Body fluid; Tissue homogenate

Sensitivity

0.1 ng/mL

Cross-reactivity

No significant cross-reactivity or interference was observed.

Storage

Store at 2-8°C.