

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

Cat. No.:	0126WXX-2015
Assay Type:	Quantitative sandwich ELISA
Target Species:	Rat
Assay Target:	TRPV1
Size:	48T; 96T

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

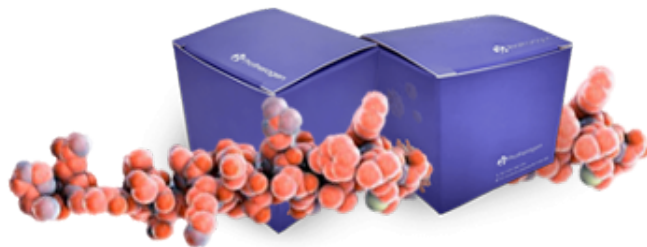
Product Overview

Description

Rat transient receptor potential cation channel subfamily V; member 1 (TRPV1) ELISA kit-Quantitative sandwich is an ELISA-based *in vitro* research tool designed specifically for the quantitative detection of TRPV1 in rat samples with a range of 78.125-5000 pg/mL and a minimum detectable dose (sensitivity) of 46.875 pg/mL. The kit is highly sensitive and easy to use.

Assay Principle

This assay is based on sandwich enzyme-linked immunosorbent assay technology. A capture antibody is pre-coated onto 96-well plates, and a biotin-conjugated antibody is utilized for detection. Standards, test samples, and the biotinylated detection antibody are added sequentially and then washed with buffer. HRP-Streptavidin is then introduced, and unbound conjugates are cleared via a wash step. TMB substrates are used to visualize the HRP enzymatic reaction, producing a blue product that shifts to yellow after the addition of an acidic stop solution. The intensity of the yellow color is proportional to the amount of target captured. The O.D. absorbance is read at 450 nm, allowing for the calculation of the target concentration.



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

94,211 Da

Applications

Rat transient receptor potential cation channel subfamily V, member 1 (TRPV1) ELISA kit-Quantitative sandwich is used to quantify TRPV1 in serum, plasma, cell culture supernatant, cell or tissue lysate, and other liquid samples 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 supernatant; Cell or tissue lysate; Other liquid samples

Detection Range

78.125-5000 pg/mL

Sensitivity

46.875 pg/mL

Precision (Intra-assay)

CV<8%

Precision (Inter-assay)

CV<10%

Cross-reactivity

No significant cross-reactivity or interference was observed.

Recovery

85-105%

Storage

Store at -20°C (microplate; standard) and 2-8°C (other reagents).