

Thermosensitive TRP Channel Anti Rat phospho TRPV1 (VR-1) Polyclonal Antibody

Recent work has begun to clarify the function of ionotropic receptors, which are expressed in sensory neurons and promote nociception. The most representative receptors of this class belong to TRP ion channel superfamily comprised by seven sub-families; TRPC, TRPV, TRPP, TRPM, TRPN, TRPML and TRPA.

TRPV1 channels have six transmembrane domains that most probably assemble into tetramers to form non-selective cationic channels. The first cloned TRPV receptor was TRPV1. This receptor is activated by capsaicin, protons or heat (with a threshold $> \sim 43^{\circ}\text{C}$), all of which cause pain *in vivo*. The recent researches on nociception and stimulus conduction systems have focused on TRPV1.

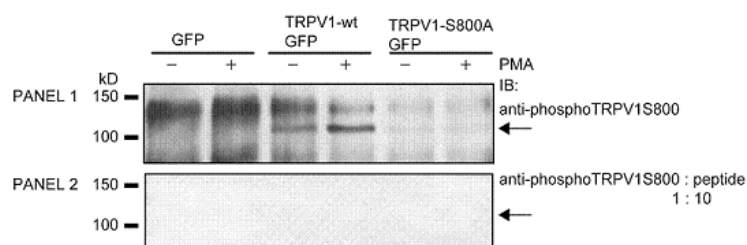
Such research indicates that TRPV1 activity is regulated by protein phosphorylation and dephosphorylation, and plays key roles in the mechanism of acute inflammatory nociception.

TRPV1 activity is enhanced by PKC activity induced by the inflammatory mediators adenosine triphosphate (ATP), bradykinin(BK), prostaglandins(PGx) through G protein-coupled receptors.

TRPV1 has two phosphorylation sites for PKC-mediated phosphorylation: S502 and S800 (Ref. 1).

The antibody presented here reacts with phosphorylated TRPV1 at S800. PKC ϵ was identified as the target of S800 phosphorylation and there is evidence to support the *in vivo* phosphorylation of S800 in mouse and rat DRG neurons by PKC ϵ (Ref. 2). This antibody will be useful to elucidate the nocifensive response to pain *in vivo*, and the molecular mechanism for sensitization-desensitization.

Package Size	25 μg (100 μL /vial)
Format	Rabbit polyclonal antibody 0.25mg/mL
Buffer	PBS [containing 2% Block Ace as a stabilizer, 0.1%Proclin as a bacteriostat]
Storage	Store below -20°C Once thawed, store at 4°C . Repeated freeze-thaw cycles should be avoided.
Purification method	This antibody was established from the serum of a rabbit immunized with the partial peptide representing phosphorylated TRPV1 at S800, and purified by peptide affinity chromatography.
Working dilution	For Western blotting : 0.5 μg /ml



Western blotting

Sample: phosphorylated TRPV1 at S800 in HEK293 cells

Preparation of antibodies and instruction
Dr. Makoto Tominaga at Section of Cell Signaling,
Okazaki Institute for Integrative Bioscience,
National Institutes of Natural Sciences

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【Reference】

- 1 Tominaga M. et al.:
Thermosensation and pain.
J Neurobiol. 2004 Oct;61(1):3-12. Review.
- 2 Mandadi S. et al. :
Increased sensitivity of desensitized TRPV1 by PMA occurs through PKCepsilon-mediated phosphorylation at S800.
Pain. 2006 Jul; 123(1-2): 106-16. *

* : Application Reference

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SCETI

DF Kasumigaseki Place, 3-6-7, Kasumigaseki, Chiyoda-ku
Tokyo 100-0013 Japan

URL: <http://www.sceti.co.jp/export/> e-mail: exp-pet@sceti.co.jp

Manufacturer

 **Trans Genic Inc.**

7-1-14 Minatojimaminami-machi, Chuo-ku, Kobe, Japan 650-0047

Telephone: +81-78-306-0295 FAX: +81-78-306-0296

URL: <http://www.transgenic.co.jp> techstaff@transgenic.co.jp