

Anti – TRPV1

Trpv1; Vr1; Vr111; VR.5'sv

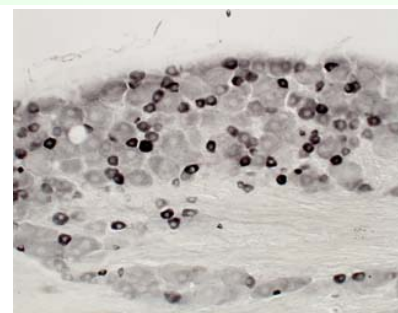
Cat No.	Size	Conjugation	Price	Application	Note
KM018	5 μ g/50 μ l	—	¥49,000	IH	

Host	: Rabbit	Specificity	: Rat
Isotype	: —	Clonality	: Polyclonal Antibody
Immunogen	: Partial peptide of rat Vanilloid Receptor Subtype1 (C terminal intracellular domain)		
Purity	: Antigen Affinity Purified	Cross Reactivity	: Not tested

Capsaicin, a pungent ingredient of hot peppers, receptor has six transmembrane domains. It's a non-selective channel with high permeability of Ca²⁺. Capsaicin, fat-soluble pain stimulus substance, has vanillyl group and is classified into the family of vanilloids. This receptor was named vanilloid receptor subtype 1 (VR-1) first, and is now named TRPV1 (transient receptor potential vanilloid subfamily member 1). TRPV1 is activated not only by capsaicin but also by heat (over 43°C) or proton, and is found in the study of pain reception or transmission of stimuli. This polyclonal antibody is specific for TRPV1 of rat, and has been proved to be useful for the immunohistochemistry.

Preparation of antibodies and instruction

Tominaga, M. Department of Physiology, Faculty of Medicine, Mie University, Japan



Dorsal root ganglion (DRG) of lumbar region (normal rat), 30 μ m of thickness

Fukuoka, T.

Second Department of Anatomy, Hyogo college of medicine, Hyogo, Japan

Anti – phospho TRPV1

Trpv1; Vr1; Vr111; VR.5'sv

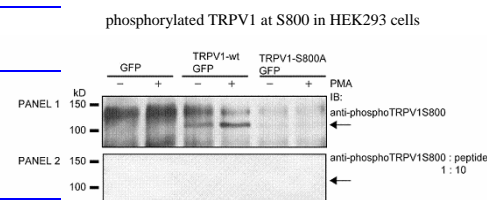
Cat No.	Size	Conjugation	Price	Application	Note
KM112	25 μ g / 100 μ l	—	¥49,000	WB	

Host	: Rabbit	Specificity	: Rat
Isotype	: —	Clonality	: Polyclonal Antibody
Immunogen	: Partial peptide of rat phospholipid scramblase2 (Central region)		
Purity	: Antigen Affinity Purified	Cross Reactivity	: Not tested

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 > ~43°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.

Preparation of antibodies and instruction

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



Western blotting

Sample: phosphorylated TRPV1 at S800 in HEK293 cells

Anti – TRPV2

Trpv2; Vr11

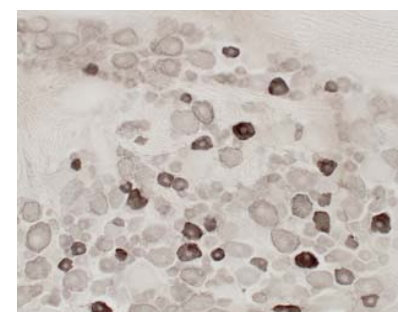
Cat No.	Size	Conjugation	Price	Application	Note
KM019	5 μ g/50 μ l	—	¥49,000	IH	

Host	: Rabbit	Specificity	: Rat
Isotype	: —	Clonality	: Polyclonal Antibody
Immunogen	: Partial peptide of rat Vanilloid Receptor like protein1 (C terminal)		
Purity	: Antigen Affinity Purified	Cross Reactivity	: Not tested

TRPV2 (transient receptor potential cation channel, subfamily V, member 2) gene is isolated as a homologue of vanilloid receptor, VR-1 (now named TRPV1). TRPV2 is supposed to be an ion channel which has 6 transmembrane regions. And it's obvious that TRPV2 is activated by heat more than 50°C, not by vanilloids (capsaicin and RTX) or protons. It is thought that myelinated A δ fiber have heat sensitivity neuron with temperature threshold of 52 °C. TRPV2 is proved to exist in myelinated A δ fiber by immunohistochemistry. This polyclonal antibody is specific for TRPV2 of rat, and has been proved to be useful for the immunohistochemistry.

Preparation of antibodies and instruction

Tominaga, M. Department of Physiology, Faculty of Medicine, Mie University, Japan



Dorsal root ganglion (DRG) of lumbar region (normal rat), 30 μ m of thickness

Hukuoka, T.

Second Department of Anatomy, Hyogo college of medicine, Hyogo, Japan

Anti – TRPV4

Trpv4; Trp12; VRL-2; VROAC; OTRPC4; VR-OAC

Cat No.	Size	Conjugation	Price	Application	Note
KM119	25 μ g/100 μ l	—	¥49,000	WB	
Host	: Rabbit		Specificity	: Mouse	
Isotype	: —		Clonality	: Polyclonal Antibody	
Immunogen	: Partial peptide of mouse TRPV4 (N terminal)				
Purity	: Antigen Affinity Purified		Cross Reactivity	: Not tested	

TRP (transient receptor potential) channels comprise a superfamily of non-selective cation channels with at least nine subfamilies. The variety of subfamilies corresponds to the differences in the activation mechanisms and functions.

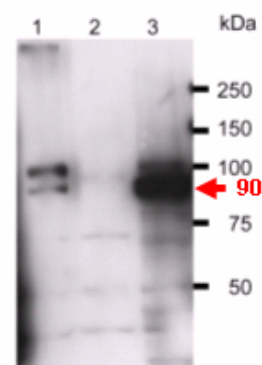
TRPV4 (TRP vanilloid 4), first identified as an osmosensory ion channel, can also be activated by warm temperatures (> 27-35 degrees C). TRPV4 is expressed in a wide variety of tissues (sensory neurons, hypothalamus, skin, kidney, lung, inner ear). TRPV4 is a primary afferent transducer that plays a crucial role in neuropathic hyperalgesia for osmotic and mechanical stimuli, as well as in inflammatory mediator-induced hyperalgesia for osmotic stimuli. It functions as a Ca²⁺ entry channel and can be activated by a wide range of stimuli including physical (cell swelling, heat, mechanical stimulation) and chemical stimuli (endocannabinoids, arachidonic acid metabolites, and 4 α -phorbol esters). Moreover, TRPV4 plays a major role in mechanical hyperalgesia and enhanced nociception to hypo-osmotic stimuli by Taxol.

Given its wide expression and the variety of activatory stimuli, TRPV4 is likely to play a number of physiological roles. Studies with TRPV4(-/-) mice suggest a role for the channel in the regulation of body osmolarity, mechanosensation, and temperature sensing.

This antibody will be very useful to research osmotic, mechanical stimuli, inflammatory reaction and thermosensitive response.

Preparation of antibodies and instruction

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

**Western blotting**

Lane 1: choroid plexus (Wild type mouse)

Lane 2: choroid plexus (TRPV4 knockout mouse)

Lane 3: rat TRPV4 overexpressed in HEK293 cells

Anti – TRPA1

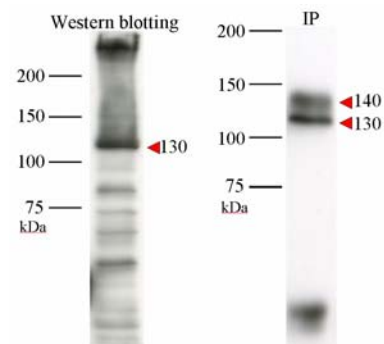
Trpa1; Anktm1

Cat No.	Size	Conjugation	Price	Application	Note
KM120	50 μ g/200 μ l	—	¥49,000	IP, WB	
Host	: Rabbit		Specificity	: Mouse	
Isotype	: —		Clonality	: Polyclonal Antibody	
Immunogen	: Partial peptide of mouse TRPA1 (N terminal)				
Purity	: Antigen Affinity Purified		Cross Reactivity	: Not tested	

Mammals feel a wide range of temperature spanning from cold to heat with specialized neurons in the peripheral nervous system. With this range, temperatures over about 43 degrees C and below about 15 degrees C evoke not only a thermal sensation, but also a feeling of pain. Nine thermosensitive ion channels have been reported, all of which belong to TRP (transient receptor potential) superfamily. They are expressed in sensory tissues, such as nociceptors and skin. Among them, TRPA1 (TRP cation channel, subfamily A, member 1) has been identified as cold-sensitive ion channel. TRPA1 is activated at approximately 17 degrees C, a temperature that is reported as painfully cold by humans. In addition to noxious cold, TRPA1 is activated pungent ingredients present in mustard, garlic, ginger, clove, wintergreen and cinnamon all and found in a subset of nociceptive sensory neurons where it is coexpressed with TRPV1/VR1 (capsaicin/heat receptor). Moreover, TRPA1 has been proposed to be a component of the mechanosensitive transduction channel of vertebrate hair cells. This antibody will be very useful to research the nocifensive (thermosensitive and mechanosensitive) response to pain.

Preparation of antibodies and instruction

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



Sample: HEK293 cells overexpressing mouse TRPA1 (cell membrane fraction)

Left: Western blotting,

Right: Immunoprecipitation

Anti – TRPM8

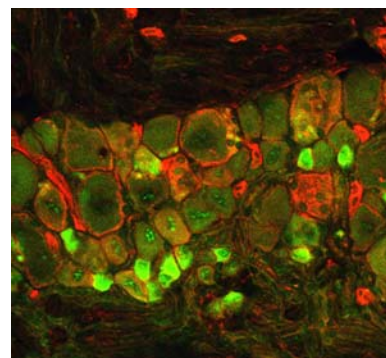
Trpm8, CMR1

Cat No.	Size	Conjugation	Price	Application	Note
KM060	25ug / 100ul	—	¥49,000	IH	
Host	: Rabbit		Specificity	: Rat	
Isotype	: —		Clonality	: Polyclonal Antibody	
Immunogen	: Partial peptide of rat Cold/menthol receptor1 (N terminal)				
Purity	: Antigen Affinity Purified		Cross Reactivity	: Not tested	

All mammals including human being can detect the temperature by their own skin. Recently, several molecular mechanism has been proposed to explain physiological stimuli. For example capsaicin receptors, TRPV1 (VR-1) and TRPV2 (VRL-1), which are related with noxious stimuli were cloned and found that these molecules were activated by temperatures exceeding 43°C and exceeding 50°C. Jullus et al. and Patapoutian et al. found novel receptor, TRPM8 (cold and menthol-sensitive receptor 1 : CMR1), and reported to Nature and Cell in which they described that these molecules were activated in temperature range 8~28°C. These findings might become driving force to investigate the mammalian peripheral nervous system. So that, in near future, the advantage of molecular physiology could account for thermal stimuli such as 1) Why human can distinguish between cold and warm? 2) Why the nervous activity accompanied by cold sensation does not always induce an unpleasant feeling or pain? This antibody is very useful for investigating TRPM8 (CMR1) expression pattern and analyzing the function.

Preparation of antibodies and instruction

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



Sample: Rat dorsal root neuron (Positive: Green)

Anti – Rim1

Rim; RIM1; RIM1a; Serg1; Rab3ip1; KIAA0340; RIM1alpha; mKIAA0340; C030033M19Rik; Rims1

Cat No.	Size	Conjugation	Price	Application	Note
KO454	25 μ g	–	¥49,000	ELISA, WB, IP	

Host : Rabbit **Specificity** : Mouse
Isotype : – **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Rim1 N-terminal region
Purity : Antigen Affinity Purified **Cross Reactivity** : –

Anti – Cacnb4

lh; Cchb4; MGC31529; lethargic; 3110038O15Rik; Cacnb4

Cat No.	Size	Conjugation	Price	Application	Note
KO455	25 μ g	–	¥49,000	ELISA, WB, ICC, IP	

Host : Rabbit **Specificity** : Mouse
Isotype : – **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Cacnb4 C-terminal region
Purity : Antigen Affinity Purified **Cross Reactivity** : –

Anti – Trpc3

Mwk; Trp3; Trcp3; Trrp3; MGC124333; Trpc3

Cat No.	Size	Conjugation	Price	Application	Note
KO456	25 μ g	–	¥49,000	ELISA, WB	

Host : Rabbit **Specificity** : Mouse
Isotype : – **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Trpc3 C-terminal
Purity : Antigen Affinity Purified **Cross Reactivity** : –

Anti – Trpc3

Mwk; Trp3; Trcp3; Trrp3; MGC124333; Trpc3

Cat No.	Size	Conjugation	Price	Application	Note
KO457	25 μ g	–	¥49,000	ELISA	

Host : Rabbit **Specificity** : Mouse
Isotype : – **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Trpc3 C-terminal region
Purity : Antigen Affinity Purified **Cross Reactivity** : Rat

Anti – Trpc5

CCE2; TRP5; Trrp5; MGC124500; Trpc5

Cat No.	Size	Conjugation	Price	Application	Note
KO458	25 μ g	–	¥49,000	ELISA, WB	

Host : Rabbit **Specificity** : Mouse
Isotype : – **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Trpc5 C-terminal region
Purity : Antigen Affinity Purified **Cross Reactivity** : Bovine

Anti – Trpc5

CCE2; TRP5; Trrp5; MGC124500; Trpc5

Cat No.	Size	Conjugation	Price	Application	Note
KO459	25 μ g	–	¥49,000	ELISA	

Host : Rabbit **Specificity** : Mouse
Isotype : – **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Trpc5 C-terminal
Purity : Antigen Affinity Purified **Cross Reactivity** : –

Anti –Trpc6

Trrp6; mtrp6; AV025995; LLHWJM002; LLHWJM003; LLHWJM004; Trpc6

Cat No.	Size	Conjugation	Price	Application	Note
KO460	25 μ g	—	¥49,000	ELISA,IHC,ICC	

Host : Rabbit **Specificity** : Mouse
Isotype : — **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Trpc6 C-terminal
Purity : Antigen Affinity Purified **Cross Reactivity** : Rabbit

Anti –Trpm1

Mlsn1; Ltrpc1; AI606771; melastatin; 4732499L03Rik; Trpm1

Cat No.	Size	Conjugation	Price	Application	Note
KO461	25 μ g	—	¥49,000	ELISA,WB	

Host : Rabbit **Specificity** : Mouse
Isotype : — **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Trpm1 middle region
Purity : Antigen Affinity Purified **Cross Reactivity** : —

Anti – Trpm2

Trp7; TRPC7; Trrp7; C79133; LTRPC2; 9830168K16Rik;Trpm2

Cat No.	Size	Conjugation	Price	Application	Note
KO462	25 μ g	—	¥49,000	ELISA,ICC	

Host : Rabbit **Specificity** : Mouse
Isotype : — **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Trpm2 middle region
Purity : Antigen Affinity Purified **Cross Reactivity** : —

Anti – Trpm2

Trp7; TRPC7; Trrp7; C79133; LTRPC2; 9830168K16Rik;Trpm2

Cat No.	Size	Conjugation	Price	Application	Note
KO463	25 μ g	—	¥49,000	ELISA,WB,IHC,ICC	

Host : Rabbit **Specificity** : Mouse
Isotype : — **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Trpm2 C-terminal region
Purity : Antigen Affinity Purified **Cross Reactivity** : Human,Rat

Anti – Trpm7

CHAK; CHAK1; Ltpr7; Ltrpc7; TRP-PLIK; 2310022G15Rik; 4833414K03Rik; 5033407O22Rik; Trpm7

Cat No.	Size	Conjugation	Price	Application	Note
KO464	25 μ g	—	¥49,000	ELISA	

Host : Rabbit **Specificity** : Mouse
Isotype : — **Clonality** : Polyclonal Antibody
Immunogen : Partial peptide of Mouse Trpm7 C-terminal region
Purity : Antigen Affinity Purified **Cross Reactivity** : Human

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