Revision 4

Store at -20C

#48510

Functional Neuron Marker Antibody Sampler Kit

1 Kit (8 x 20 microliters)

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Tyrosine Hydroxylase (E2L6M) Rabbit mAb	58844	20 µl	55-60 kDa	Rabbit IgG
GAD2 (D5G2) XP® Rabbit mAb	5843	20 µl	60 kDa	Rabbit IgG
VGLUT2 (D7D2H) Rabbit mAb	71555	20 µl	65-70 kDa	Rabbit IgG
VGLUT1 (E8L5B) Rabbit mAb	47181	20 µl	62 kDa	Rabbit IgG
ChAT (E4F9G) Rabbit mAb	27269	20 µl	71 kDa	Rabbit IgG
GAD1 (D1F2M) Rabbit mAb	41318	20 µl	67 kDa	Rabbit IgG
5-HTR4 (D8O5K) Rabbit mAb	13690	20 µl	40-140 kDa	Rabbit IgG
β2-Adrenergic Receptor (D6H2) Rabbit mAb	8513	20 µl	50-100 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Functional Neuron Marker Antibody Sampler Kit provides an economical means of detecting markers that facilitate phenotyping neurons by function. The kit includes enough antibodies to perform at least two western blot experiments with each primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA, 50% glycerol, and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibodies*.

Background

Tyrosine hydroxylase (TH) catalyzes the rate-limiting step in the synthesis of the neurotransmitter dopamine and other catecholamines, and acts as a marker for dopaminergic neurons (1,2). Choline O-acetyltransferase (ChAT) is the enzyme that catalyzes synthesis of acetylcholine (ACh) in the central and peripheral nervous system. ChAT is found in high levels within cholinergic neurons and can be used to measure their functional states (3). Vesicular glutamate transporters 1 and 2 (VGLUT1 and VGLUT2) are responsible for transporting the excitatory neurotransmitter glutamate into synaptic vesicles of glutamatergic neurons. VGLUT1 and VGLUT2 are complimentarily expressed and act as markers for glutamatergic neurons (4). Glutamate decarboxylase (GAD) is the main enzyme that synthesizes GABA from glutamate. GABA producing neurons, called GABAergic neurons, utilize GABA as their major inhibitory neurotransmitter with both isoforms of GAD, GAD1, and GAD2, acting as functional markers for these neurons (5). β2-adrenergic receptor (β2AR) is a G protein-coupled receptor (GPCR) that mediates the actions of catecholamines, mainly through stimulation by epinephrine (adrenaline), in the central and peripheral nervous system (6,7). Serotonin receptor 4 (5-HTR4) is an excitatory GPCR that activates the cyclic AMP (cAMP)-PKA pathway (8,9). 5-HTR4 is located post-synaptically on serotonergic neurons (10).

Background References

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3. Oda, Y. (1999) *Pathol Int* 49, 921-37.
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