Revision 7

Store at -20C

#56511

Tau Mouse Model Neuronal Viability IF Antibody Sampler Kit

1 Kit (9 x 20 microliters)

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-Tau (Thr205) (E7D3E) Rabbit mAb	49561	20 µl	50-80 kDa	Rabbit IgG
Tau (D1M9X) XP® Rabbit mAb	46687	20 µl	50-80 kDa	Rabbit IgG
NeuN (D4G4O) XP® Rabbit mAb	24307	20 µl	46-55 kDa	Rabbit IgG
Synaptophysin (7H12) Mouse mAb (IF Formulated)	9020	20 µl		Mouse IgG1
PSD95 (D27E11) XP® Rabbit mAb	3450	20 µl	95 kDa	Rabbit IgG
Cleaved Caspase-3 (Asp175) Antibody	9661	20 µl	17, 19 kDa	Rabbit
Cleaved PARP (Asp214) (D6X6X) Rabbit mAb	94885	20 µl	89 kDa	Rabbit IgG
GFAP (E6N9L) Mouse mAb	34001	20 µl	50 kDa	Mouse IgG2a
HS1 (D5A9) XP® Rabbit mAb	3892	20 µl	80 kDa	Rabbit IgG

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

Description

The Tau Mouse Model Neuronal Viability IF Antibody Sampler Kit provides an economical means of detecting proteins to confirm neuronal viability and surrounding astrocytes and microglia in mouse models by immunofluorescence.

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 antibody.*

Background

Tau is a heterogeneous microtubule-associated protein that promotes and stabilizes microtubule assembly, especially in axons. Neurofibrillary tangles are a major pathological hallmark of Alzheimer's disease; these tangles are bundles of paired helical filaments composed of hyperphosphorylated tau, including phosphorylation of tau at Thr205 (1,2). Research studies have shown that inclusions of tau are found in a number of other neurodegenerative diseases, collectively known as tauopathies (1,3). Neuronal nuclei (NeuN, Fox-3, RBFOX3) is a nuclear protein expressed in most post-mitotic neurons of the central and peripheral nervous systems. NeuN is not detected in Purkinje cells, sympathetic ganglion cells, Cajal-Retzius cells, INL retinal cells, inferior olivary, or dentate nucleus neurons (4). Glial fibrillary acidic protein (GFAP) is the main intermediate filament in mature brain astroglial and radial glial cells. GFAP plays an important role in modulating astroglial motility and shape (5). HS1 is a protein kinase substrate that is expressed only in tissues and cells of hematopoietic origin (6). Previous work identifying markers of specific brain cell types using RNA-seq has shown HS1 to be a useful and specific tool to study microglia (7). Synaptophysin (SYP) is a neuronal synaptic vesicle glycoprotein that occurs in presynaptic vesicles of neurons (8). Postsynaptic density protein 95 (PSD95) is a member of the membrane-associated guanylate kinase (MAGUK) family of proteins. PSD95 is a scaffolding protein involved in the assembly and function of the postsynaptic density complex (9,10). Caspase-3 (CPP-32, Apoptain, Yama, SCA-1) is a critical executioner of apoptosis, as it is either partially or totally responsible for the proteolytic cleavage of many key proteins, including nuclear enzyme poly (ADP-ribose) polymerase (PARP) (11). PARP, a 116 kDa nuclear poly (ADP-ribose) polymerase, appears to be involved in DNA repair in response to environmental stress (12). PARP helps cells to maintain their viability; cleavage of PARP facilitates cellular disassembly and serves as a marker of cells undergoing apoptosis (13).

Background References

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Limited Uses