

Unique

Neuronal Antibodies

4R-tau

C9orf72

TDP-43

-Synuclein

and others

In rapid aging of society, neurodegenerative diseases such as Alzheimer's Disease, Amyotrophic Lateral Sclerosis (ALS), and Parkinson's Disease are widely-recognized as a serious problem that needs to be addressed. These unique antibodies offered exclusively by Cosmo Bio are powerful tools in advancing our understanding of neurodegenerative pathologies and mechanisms.

Anti 4R-tau Antibody

This anti-4R antibody recognizes 4-repeat tau (4R-tau) isoforms regardless of the deamidation at Asn279 and strongly stains 4R-tau isoforms in AD brain.

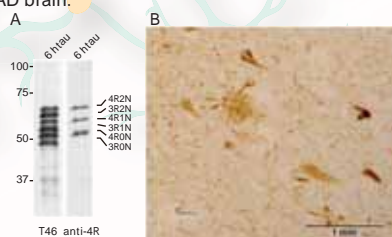
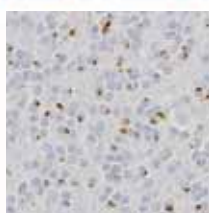


Fig. 1 A: Immunoblot analysis of 6 human tau isoforms (3-repeat and 4-repeat) with anti-tau (T46) and anti-4R (CAC-TIP-4RT-P01). B: Immunostaining of paraffin-embedded section of cerebral cortex prepared from AD brain (pretreated with proteinase K and formic acid)

Anti C9orf72 Antibodies



Antibodies raised against dipeptide repeat sequences encoded by C9ORF72 expansions stain the p62-positive inclusions in FTL and motor neuron disease.

Fig. 2 Immunostaining of the cerebellum of C9orf72 case for poly-GA protein with anti-GA antibody (CAC-TIP-C9-P01) (By the courtesy of Drs Tada and Takahashi in Niigata Univ).

Proteoglycan Antibodies

Proteoglycans are the core structure proteins of the central nervous system (CNS). Antibodies are available for the following proteins: Chondroitin Sulfate A, Neurocans and its peptides, Neuroglycan C, N-syndecans. Chondroitin sulfate polysaccharides are involved in various cellular events in the formation, regeneration, and maintenance of the neural network. Neurocans are implicated in the neural network formation, and is a susceptibility factor for bipolar disorders. Neuroglycan C is a potential susceptibility factor for schizophrenia. N-syndecan plays a pivotal role in formation of the neural network through these molecular interactions.

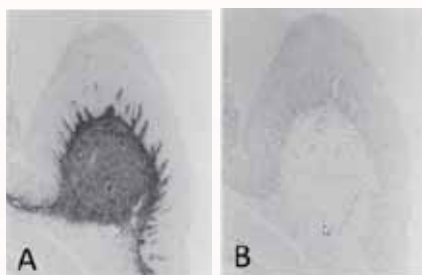


Fig. 5 Immunohistochemical staining using the monoclonal anti-chondroitin sulfate A antibody (clone 2H6). Paraffin sections of omasal papilla from the adult sheep were stained with the monoclonal anti-chondroitin sulfate A antibody before (A) and after (B) digestion with chondroitinase ABC. After pretreatment with the enzyme, the immunoreactivity completely disappeared. Reference: Eur. J. Histochem., 39 (1995) 265-272.

Anti phosphorylated TDP-43 Antibodies

Phosphorylated TDP-43 accumulates in pathological inclusions in brains with FTL-D-TDP, ALS, AD, DLB and other neurodegenerative diseases.

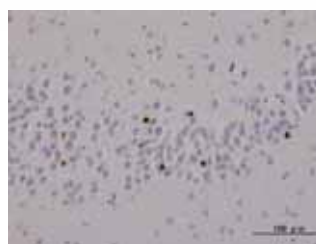


Fig. 3 NCLs in dentate gyrus of FTL-D-TDP. MAb pS409/410 stains ubiquitin-positive inclusions in FTL-D-TDP and ALS without nuclear staining. This does not stain ghost tangles and granulovacuolar degeneration in AD and other related diseases.

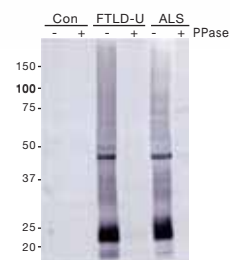


Fig. 4 Immunoblot analysis of Sarkosyl-insoluble fractions from control, FTL-D-TDP and ALS brains with or without protein phosphatase (PPase) treatment.

Anti α-Synuclein Antibodies

Alpha-Synuclein, a 140-amino acid protein abundantly expressed in presynaptic terminals, is known as a component of intraneuronal or glial inclusions observed in cases of Parkinson's disease (PD), Dementia with Lewy bodies (DLB) and Multiple system atrophy (MSA). Fine tune your α-synuclein research with these antibodies raised against linear epitopes scanning the human α-synuclein sequence.

Other Antibodies

Cosmo also offers antibodies for PON1 and 1-Oleoyl-Palmitoyl-Phosphatidylcholine (OPPC). PON1 polymorphism may be responsible for neurodegeneration and considered to be an independent risk factor for Parkinson's disease. Anti 1-Oleoyl-Palmitoyl-Phosphatidylcholine (OPPC) are lipids concentrated at tips of neuronal protrusions.



Fig. 6 Western Blot for PON1 Antibody: 1/1,000. Predicted molecular weight: 39.7 kDa. Primary antibody: Anti human PON1 monoclonal antibody ($\times 1,000$). Secondary antibody: Goat anti-mouse IgG-HRP ($\times 2,500$)



Fig. 7 OPPC localization analysis on cultured nerve cell (rat PC12 cell, clone#15-3C1).



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Description	Host	Immunogen	Cross Reactivity	Application	Cat. No.	Quantity
Anti 4R-tau Antibody						
Anti 4R-tau	Ra	H	H/M/R	WB/IHC	CAC-TIP-4RT-P01	50 µL
Anti C9orf72 Antibodies						
Anti C9orf72 (Poly-GA)	Ra	H	H	ELISA/IHC	CAC-TIP-C9-P01	50 µL
Anti C9orf72 (Poly-GR)	Ra	H	H	ELISA/IHC	CAC-TIP-C9-P02	50 µL
Anti C9orf72 (Poly-GP)	Ra	H	H	ELISA/IHC	CAC-TIP-C9-P03	50 µL
Anti Phosphorylated TDP-43 Antibodies						
Anti TDP-43, phospho Ser409/410	M	H	H	WB/ELISA/IHC	CAC-TIP-PTD-M01	50 µL
Anti TDP-43, phospho Ser409/410-1	Ra	H	H	WB/ELISA/IHC	CAC-TIP-PTD-P01	100 µL
Anti TDP-43, phospho Ser409/410-2	Ra	H	H	WB/ELISA/IHC	CAC-TIP-PTD-P02	100 µL
Anti TDP-43, phospho Ser409	Ra	H	H	WB/ELISA/IHC	CAC-TIP-PTD-P03	100 µL
Anti TDP-43, phospho Ser410	Ra	H	H	WB/ELISA/IHC	CAC-TIP-PTD-P04	100 µL
Anti TDP-43, phospho Ser403/404	Ra	H	H	WB/ELISA/IHC	CAC-TIP-PTD-P05	100 µL
【Related products】TDP-43 (Native) Rabbit Antibodies						
Anti TDP-43 (3-12)	Ra	H	H/R	WB/ELISA/IHC	CAC-TIP-TD-P07	100 µL
Anti TDP-43 (405-414)	Ra	H	H/R	WB/ELISA/IHC	CAC-TIP-TD-P09	100 µL
Anti -Synuclein Antibodies						
Anti -Synuclein (1-10)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-P01	50 µL
Anti -Synuclein (11-20)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-P02	50 µL
Anti -Synuclein (21-30)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-P03	50 µL
Anti -Synuclein (31-40)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-P04	50 µL
Anti -Synuclein (41-50)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-P05	50 µL
Anti -Synuclein (51-60)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-P06	50 µL
Anti -Synuclein (61-70)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-P07	50 µL
Anti -Synuclein (75-91)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-P08	50 µL
Anti -Synuclein (131-140)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-P09	50 µL
Anti -Synuclein (9 antibodies set)	Ra		H/M	IHC/ELISA/WB	CAC-TIP-SN-SET	9x10 µL
Proteoglycan Antibodies						
Anti Chondroitin Sulfate A	M	R	R	WB/ELISA/IP/IHC(f)/IHC(p)	CAC-NU-07-001	200 µL
Anti Neurocan	M	R	R	WB/ELISA/IP/IHC(f)/IHC(p)	CAC-NU-07-002	200 µL
Anti Neuroglycan C	M	R	R	WB/IP/IHC(f)/IHC(p)	CAC-NU-07-003	200 µL
Anti N-syndecan	Ra	R	M/R	WB/IHC(p)	CAC-NU-07-004	100 µL
Anti Neurocan Peptides	Ra	R	M/R	WB/IHC(p)	CAC-NU-07-005	200 µL
Other Antibodies						
Anti PON1	M	H	H	WB	CAC-ABN-M02-HP	100 µL
Anti PON1	M	M	M	WB	CAC-ABN-M02-MP	100 µL
Anti 1-Oleoyl-Palmitoyl-Phosphatidylcholine (OPPC)	M	R	R	ELISA/IF	CAC-SK-KC01-M01	0.5 mL

H: Human M: Mouse R: Rat Ra: Rabbit

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