

Anti phospho TDP-43 (pS409/410-1)

BACKGROUND

TDP-43, a heterogeneous nuclear ribonucleoprotein, was identified as a component of ubiquitin-positive and tau-negative inclusions observed in cases of frontotemporal lobar degeneration (FTLD-U) and amyotrophic lateral sclerosis (ALS). Immunohistochemical analyses using antibodies generated against phospho- and non-phosphopeptides of human TDP-43 revealed that abnormally phosphorylated full-length TDP-43 (45 kDa), C-terminal fragments (~25 kDa) and smearing substances are deposited as intracellular inclusions in affected regions of FTLD-U and ALS cases. These antibodies are powerful tools for biochemical and immunohistochemical analyses of neurodegenerative diseases and for evaluation of cellular or animal models of TDP-43 proteinopathy.

Product type	Primary antibody
Immunogen	CMDSKS(p)S(p)GWGM, S(p):phosphoserine 409/410
Raised in	Rabbit
Myeloma	-
Clone number	-
Isotype	-
Source	Serum
Purification	-
Form	Liquid. Antiserum with 0.05% NaN ₃ as a preservative.
Concentration	-
Volume	100 µl
Label	Unlabeled
Specificity	Phospho TDP-43
Cross reactivity	Human
Storage	Store below -20°C. (below -70°C for prolonged storage). Aliquot to avoid cycles of freeze/thaw.

Application notes Recommended dilutions

- **Western blotting:** 1/1000 - 1/3000
- **Immunohistochemistry:** 1/1000 - 1/5000
- **ELISA:** 1/1000 - 1/5000

Other applications have not been tested.

Optimal dilutions/concentrations should be determined by the end user.

References

- 1) Hasegawa M, Arai T, Nonaka T, Kametani F, Yoshida M, Hashizume Y, Beach TG, Buratti E, Baralle F, Morita M, Nakano I, Oda T, Tsuchiya K, Akiyama H. Phosphorylated TDP-43 in frontotemporal lobar degeneration and amyotrophic lateral sclerosis. *Ann Neurol*. 2008 Jun 10;64(1):60-70. PubMed: [18546284](https://pubmed.ncbi.nlm.nih.gov/18546284/)

ANTIBODY CHARACTERIZATION

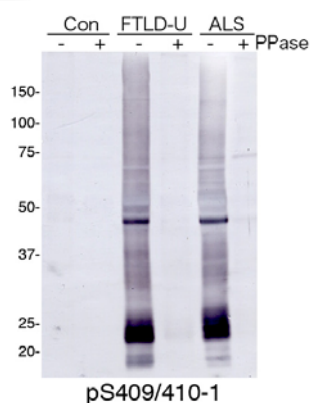


Figure 1 Immunoblot analyses with pAb pS409/410-1,
 Predicted molecular weight: Phosphorylated full-length TDP-43 at 45 kDa, - 25 kDa
 fragments and smearing substances in FTLD-U, ALS and other related disorders.

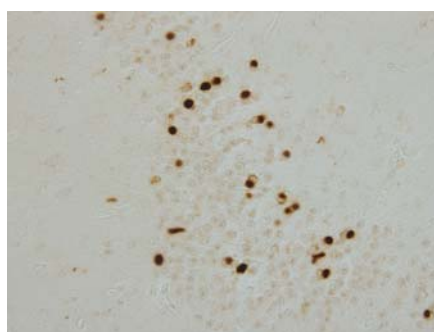


Figure 2 Immunohistochemistry of TDP-43 lesions.
 PAb "pS409/410-1" recognize neuronal cytoplasmic inclusions (NCIs) in dentate gyrus
 of FTLD-U.
 Note: PAb pS409/410-1 sometimes stained ghost tangles and dot-like structures
 (granulovacuolar degeneration) in the hippocampal and other regions of brains with AD
 or other related diseases. For this reason, we recommend pS409/410-2 or mAb
 pS409/410 for immunohistochemistry of human tissues

RELATED PRODUCTS:

Product Name	Quantity	Maker	Cat#
Anti TDP-43, phospho Ser409/410 (clone:11-9) Monoclonal Antibody	50 uL	CAC	TIP-PTD-M01
Anti TDP-43, phospho Ser409/410-1 Polyclonal Antibody	100 uL	CAC	TIP-PTD-P01
Anti TDP-43, phospho Ser409/410-2 Polyclonal Antibody	100 uL	CAC	TIP-PTD-P02
Anti TDP-43, phospho Ser409 Polyclonal Antibody	100 uL	CAC	TIP-PTD-P03
Anti TDP-43, phospho Ser410 Polyclonal Antibody	100 uL	CAC	TIP-PTD-P04
Anti TDP-43, phospho Ser403/404 Polyclonal Antibody	100 uL	CAC	TIP-PTD-P05
Anti TDP-43 N-terminus(3-12) Polyclonal Antibody	100 uL	CAC	TIP-TD-P07
Anti TDP-43 C-terminus(405-414) Polyclonal Antibody	100 uL	CAC	TIP-TD-P09

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