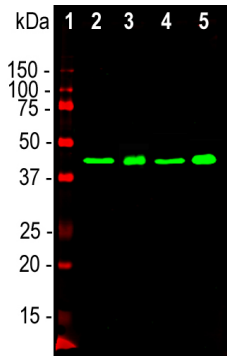
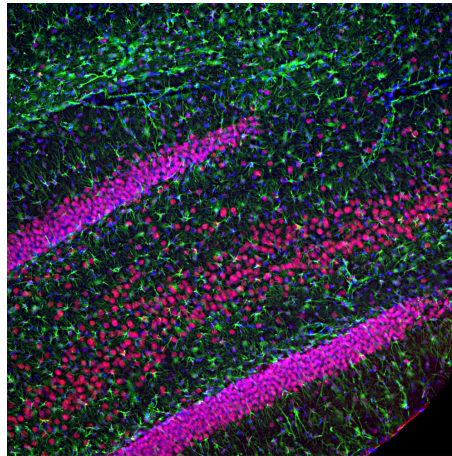


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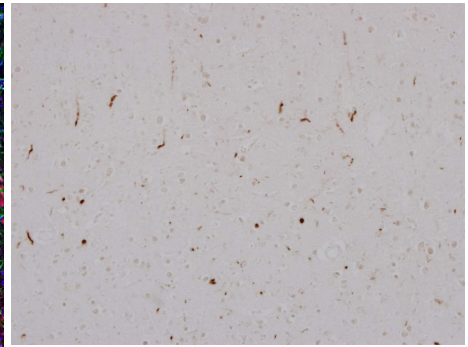
<b>Product name:</b>	TDP43 Mouse Monoclonal Antibody
<b>Cat number:</b>	MAB-94327
<b>Conjugate:</b>	Unconjugated
<b>Size:</b>	100 ug
<b>Clone:</b>	2E2-D3
<b>Concentration:</b>	1mg/ml
<b>Host:</b>	Mouse
<b>Isotype:</b>	IgG1
<b>Immunogen:</b>	Full length recombinant human TDP43 expressed in and purified from E. coli.
<b>Reactivity:</b>	Human, Mouse, Rat, Cow, Pig
<b>Applications:</b>	Western Blot: 1:5,000. Immunocytochemistry:1:1,000 Immunofluorescence: 1:1,000 Immunohistochemistry: 1:1,000
<b>Molecular Weight:</b>	43kDa
<b>Purification:</b>	Purified
<b>Form:</b>	Liquid
<b>Buffer:</b>	50% PBS, 50% glycerol plus 5mM NaN <sub>3</sub>
<b>Storage:</b>	Store at 4°C for short term, for longer term at -20°C.
<b>Background:</b>	<p>TDP43 was originally identified as a protein which binds to the “transactivation response” (TAR) sequence found in the long terminal repeat of the HIV-1 virus genome. UV cross-linking of HeLa cell extract revealed a 43kDa protein which was cloned and sequenced and shown to contain a two copies of the ~90 amino acid RRM domain. RRM is an acronym for RNA Recognition Motif, and this domain is found in many proteins which bind single stranded RNA and some which bind single stranded DNA. It also has a single Zinc Finger domain of the ZnF_RBZ subtype found in Ran binding proteins. Ran is a small G protein related to p21-Ras which regulates the import and export of proteins to the nucleus. The protein is frequently referred to by the acronym TDP43 corresponds to “TAR DNA binding protein of molecular weight 43 kDa”. Northern blots showed that the protein is ubiquitous in tissue expression. Much interest has been focused on TDP43 recently due to its association with the inclusions seen in frontotemporal lobar degeneration and Amyotrophic Lateral Sclerosis (ALS). The protein is present in these inclusions in a partially degraded, hyperphosphorylated and ubiquitinated form.</p>



Western blot analysis of whole brain lysates and nuclear extract from whole brain using mouse mAb to TDP43, dilution 1:2,000 in green: [1] protein standard (red), [2] rat brain, [3] rat brain nuclear extract, [4] mouse brain, [5] mouse brain nuclear extract. Strong band at the 43kDa mark, visible both in whole brain and in the nuclear extract corresponds to TDP43 protein.



Immunofluorescent analysis of rat hippocampus section stained with mouse mAb to TDP43, dilution 1:2,000 in red, and costained with chicken pAb to GFAP, CPCA-GFAP, dilution 1:5,000 in green. The blue is DAPI staining of nuclear DNA. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45µm, and free-floating sections were stained with above antibodies. The TDP43 protein is concentrated in the nuclei of hippocampal neurons, while the GFAP antibody stains the intermediate filament network of astroglial cells.



The mouse monoclonal antibody to TDP43 is a robust marker of TDP43 positive inclusions in ethanol fixed and paraffin embedded sections, as shown here on a section of human brain from a patient with fronto-temporal dementia (FTLD).