**Basic Information**

<table>
<thead>
<tr>
<th>Catalog Number: 10782-2-AP</th>
<th>GenBank Accession Number: BC001487</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size: 46 μg/150 μl</td>
<td>GeneID (NCBI): 23435</td>
</tr>
<tr>
<td>Source: Rabbit</td>
<td>Full Name: TAR DNA binding protein</td>
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<tr>
<td>Isotype: IgG</td>
<td>Calculated MW: 43 kDa</td>
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<tr>
<td>Purification Method: Antigen affinity purification</td>
<td>Observed MW: 43 kDa</td>
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</tbody>
</table>

**Recommended Dilutions:**
- WB: 1:2000-1:10000
- IHC: 1:1000-1:4000
- IF: 1:50-1:500

**Applications**

- **Tested Applications:** FC, IF, IH, WB, EUISA
- **Cited Applications:** ChIP, CoIP, EUISA, IEM, IF, IH, IP, RIP, WB
- **Species Specificity:** human, mouse, rat, zebrafish
- **Cited Species:** C. elegans, chicken, dog, Drosophila, fly, hamster, horse, human, monkey, mouse

**Note-IHC:** suggested antigen retrieval with TE buffer pH 9.0. (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

**Positive Controls:**
- WB: SH-SY5Y cells; K-562 cells, HeLa cells, C2C12 cells, Neuro-2a cells
- IHC: mouse brain tissue; human brain tissue, human brain (FTLD-U) tissue, human gliomas tissue, human pancreas tissue, rat brain tissue
- IF: HepG2 cells; MCF-7 cells, SH-SYSY cells, HeLa cells, mouse brain tissue

**Background Information**

The TARDBP gene encodes the TDP-43 protein, initially found to repress HIV-1 transcription by binding TAR DNA. TDP-43 has since been shown to bind RNA as well as DNA, and have multiple functions in transcriptional repression, translational regulation and pre-mRNA splicing. For instance, it is reported to regulate alternate splicing of the CTFR gene.

In 2006 Neumann et al. found that hyperphosphorylated, ubiquitinated and/or cleaved forms of TDP-43, collectively known as pathological TDP-43, play a major role in the disease mechanisms of ubiquitin-positive, tau- and alpha-synuclein-negative frontotemporal dementia (FTLD-U) and in amyotrophic lateral sclerosis (ALS).

Proteintech's 10782-2-AP antibody is a rabbit polyclonal antibody recognizing N-terminal TDP-43. It recognizes the intact 43 kDa protein as well as all posttranslationally modified and truncated forms in multiple applications. Various forms of TDP-43 exist, including 18-35 kDa of cleaved C-terminal fragments, 45-50 kDa phospho-protein, 55 kDa glycosylated form, 75 kDa hyperphosphorylated form, and 90-300 kDa cross-linked form. (17023659, 19823856, 21666678, 22193176)

Recently TDP-43 has been reported to be overexpressed in triple negative breast cancer (TNBC) and it may be a potential target for TNBC diagnosis and drug design. (29581274)

**Notable Publications**

<table>
<thead>
<tr>
<th>Author</th>
<th>Pubmed ID</th>
<th>Journal</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kasey L Jackson</td>
<td>26465725</td>
<td>Mol Ther Methods Clin Dev</td>
<td>WB</td>
</tr>
<tr>
<td>Jinwal Umesh K UK</td>
<td>19793966</td>
<td>J Neurosci</td>
<td>WB</td>
</tr>
<tr>
<td>Kadokura Ai A</td>
<td>19559703</td>
<td>Neurosci Lett</td>
<td>WB, IHC, IF</td>
</tr>
</tbody>
</table>

**Storage**

- Store at -20°C. Stable for one year after shipment.
- Storage Buffer: PBS with 0.1% sodium azide and 50% glycerol pH 7.3.
- Aliquoting is unnecessary for -20°C storage

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For technical support and original validation data for this product please contact:

T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1 (312) 455-8498 (outside USA)
E: proteintech@ptglab.com
W: ptglab.com

This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.
Selected Validation Data

40X of FTLD-U case stained by 10782-2-AP and 60019-2-Ig, showing dystrophic neurites. (Figs were provided by Linda K. Kwong)

Various lysates were subjected to SDS PAGE followed by western blot with 10782-2-AP (TDP-43 antibody) at dilution of 1:5000 incubated at room temperature for 1.5 hours

Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using 10782-2-AP (TDP-43 antibody) at dilution of 1:2000 (under 10x lens) heat mediated antigen retrieved with Tris-EDTA buffer (pH9).

WB result of TDP-43 antibody (10782-2-AP; 1:30000; incubated at room temperature for 1.5 hours) with sh-Control and sh-TDP-43 transfected HeLa cells

1X10^6 HeLa cells were stained with 0.2ug TDP-43 antibody (10782-2-AP, red) and control antibody (blue). Fixed with 90% MeOH blocked with 3% BSA (30 min). Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG(H+L) with dilution 1:1000.