Supplementary material

Distinct pathways leading to TDP-43-induced cellular dysfunctions

Makiko Yamashita¹, Takashi Nonaka¹, Shinobu Hirai², Akiko Miwa², Haruo Okado², Tetsuaki Arai³, Masato Hosokawa⁴, Haruhiko Akiyama⁴, Masato Hasegawa¹

¹ Department of Neuropathology and Cell Biology, ² Department of Brain Development and Neural Regeneration, ⁴ Dementia Research Project, Tokyo Metropolitan Institute of Medical Science, Tokyo 156-8506, Japan, ³ Department of Neuropsychiatry, Division of Clinical Medicine, Faculty of Medicine, University of Tsukuba, Tsukuba, Ibaraki 305-8575, Japan

Supplementary figure legends

Fig. S1. Cytotoxic effect of expressed N-terminal fragment of TDP-43 (N-TDP) in SH-SY5Y cells. (A) SH-SY5Y cells were infected with each TDP-43 virus at 2 x10⁷ copies/well. After incubation for 4 days, the viability of infected cells was examined by the trypan blue dye exclusion method. The experiments were repeated 3 times; the illustrated results are typical. Data are means ± S.E.M. *, p < 0.01 by Student's t test. (B) SH-SY5Y cells were transfected with empty (GFP), GFP-FL-TDP (FL-TDP) or GFP-N-TDP (N-TDP) vector. After incubation for 3 days, DNA synthesis was measured by BrdU uptake assay, using a confocal laser microscope. The ratio (%) of the numbers of BrdU-positive cells to the numbers of GFP-positive cells was calculated as the incorporation ratio of BrdU. At least 8 areas per sample were analyzed (n = 8-16), and the experiments were repeated 3 times; the illustrated results are typical. Data are means ± S.E.M. *, p < 0.01 by Student's t test.

Fig. S2. Co-localization of Sp1 and CREB with full-length TDP-43. At 72 h post-transfection with empty (GFP), GFP-FL-TDP (FL-TDP) or GFP-C-TDP (C-TDP) vector, SH-SY5Y cells were stained with antibodies for Sp1 (upper) and CREB (lower), and observed with a confocal laser microscope.
Fig. S2 Yamashita et al