Erratum

In the article “Neurofilament Transport In Vivo Minimally Requires Hetero-Oligomer Formation,” by Aidong Yuan, Mala V. Rao, Asok Kumar, Jean-Pierre Julien, and Ralph A. Nixon, which appeared on pages 9452–9458 of the October 15, 2003 issue, a printer’s error resulted in poor-quality reproductions of Figures 1, 3, 5, and 7. Correct versions of the figures, as well as each corresponding legend, are printed here.

Figure 1. No detectable transport of NF-L in optic axons in the absence of NF-M and NF-H. Slow axonal transport was determined by intravitreal injection of radiolabeled [35S]methionine into 3- to 4-month-old control (a) and HM-DKO (b) mice. At 3 d after injection, the optic pathways were cut into eight 1 mm segments at consecutive levels extending from the eye to the lateral geniculate body and were fractionated into Triton X-100-soluble and Triton X-100-insoluble fractions. The cytoskeleton proteins were separated on 5–15% SDS-polyacrylamide gels, transferred to nitrocellulose, and visualized by autoradiography and phosphorimaging. The positions of each cytoskeletal protein are indicated. Labeling of NF-M and NF-H proteins is seen in control but not in HM-DKO optic axons. The absence of a labeled NF-L in HM-DKO mice traveling at an SCa rate is partially obscured by the labeled Hsc70 (heat shock cognate 70) protein, which is transported at a faster SCb rate of transport (Yuan et al., 2000). NF-L subunit, however, was not detected in optic axons of HM-DKO mice by immunoblotting using mAb to NF-L (NR4) (c). Moreover, further resolution of Hsc70 (small arrow) and NF-L (large arrow) using two-dimensional gel electrophoresis confirmed that NF-L is radiolabeled (d) and immunostained with anti-NF-L in control optic axons (e), whereas, in HM-DKO optic axons, NF-L is neither detectably labeled (f) nor immunostained (g). WT, Wild-type mice; MAP1A, microtubule-associated protein 1A.

Figure 3. NF-M protein is transported at a normal SCa rate along optic axons in the absence of NF-L. Slow axonal transport was measured as noted in the legend to Figure 1, except using wild-type (WT; a, d) and LKO (b, e) mice. c and f show transport of NF-M protein quantified by densitometry scanning of autoradiograph profiles and plotted against optic pathway segment numbers. The vertical axis indicates relative radioactivity of labeled NF-M protein. On the horizontal axis, the nerve segments are numbered consecutively from the level of the eye. Insoluble NF-M protein was transported at the same SCa rate (0.25 mm/d) in LKO mice as in wild-type mice.
Figure 5. NF-M protein is transported at a normal SCa rate along optic axons independently of NF-L and NF-H. Slow axonal transport was measured as noted in the legend to Figure 3, except using wild-type (WT; a, d, g) and HL-DKO (b, e, h) mice. Insoluble NF-M protein from HL-DKO and wild-type mice was transported at the same SCa rate (c, f, i).
Figure 7. Slow transport of NF-M protein is abolished in optic axons of α-IL-DKO mice. Autoradiographs of slow transport profiles at 3 or 7 d were generated as noted in the legend to Figure 1, except using wild-type (WT; a, i), α-IL-DKO (b), and α-IKO (j) mice. Enlargements of regions from lane 1 of these gels are shown in c, e, and k. The absence of NF-L (c, d) and α-internexin (e, f) in α-IL-DKO mice was confirmed by autoradiography and immunoblotting. Note that the absence of labeled NF-L is partially obscured by labeled Hsc70 (c). Autoradiographs of fast transport profiles at 5 hr were also generated as noted in the legend to Figure 1, except using wild-type (g) and α-IL-DKO (h) mice, and only the first two lanes of NF-M regions were shown. A small portion of NF-M was fast transported in wild-type mice but undetectable in α-IL-DKO animals. Deletion of α-internexin alone (α-IKO) did not affect the slow transport of NF-M and other slowly transported proteins (i, j). The α-internexin migrates on gels just above a 57 kDa SCβ protein (e) (indicated as X). The absence of α-internexin (i, j) in α-IKO mice was confirmed by autoradiography and immunoblotting.

MAP1A, Microtubule-associated protein 1A.