Inventory of Supplemental Information

Supplemental Data include six Supplemental Figures, five supplemental Tables, Supplemental Experimental Procedures, and Supplemental References.

Fig. S1 supplements Fig. 1, describing cerebellar histopathology, motor ability and *Nna1* mutation in conventional $pcd^{2J\text{-}4J}$ mutants.

Fig. S2 supplements Fig. 2, verifying establishment of a cutting-edge technique of laser capture microdissection plus global gene profiling, and providing data on spatial and temporal expression of lysyl oxidase in developing mouse central nervous system.

Fig. S3 supplements Fig. 3, showing time course of cell treatment, lentiviral vector-mediated transduction in cerebellar cell cultures and 293Ta cell cultures.

Fig. S4 supplements Fig. 4, showing time course of slice treatment, lentiviral vector-mediated transduction and Purkinje cell viability in cerebellar slice cultures.

Fig. S5 supplements Fig. 5, showing time course of neonatal injection and lentiviral vector-mediated transduction in the cerebellar cortex in vivo.

Fig. S6 supplements Fig. 8, showing quantification of microtubules and related regulators in vivo and in vitro.

Table S1 supplements Fig. 1, showing five pairs of primers for mouse Nna1 cDNA and the length of each fragment.

Table S2 supplements Fig. 2, comparing top 10 gene signals between wild-type Purkinje cells, granule cells and entire cerebellum.

Table S3 supplements Figs. 3 and 7, presenting qPCR primers for changed genes checked by microarray, and for the NF-κB family.

Table S4 supplements Figs. 3, 4, 7 and 8, showing shRNA sequences of Nna1, Lox, RelA and MAPs.

Table S5 supplements Figs. 3-8, providing schematic structures of lentiviral vectors of shRNAs and cDNAs.

Supplemental Experimental Procedures provide complete protocols including detailed methods, instruments, chemicals, antibodies and other reagents used in the present study.

Supplemental References include 4 cited references in Supplemental Experimental Procedures.