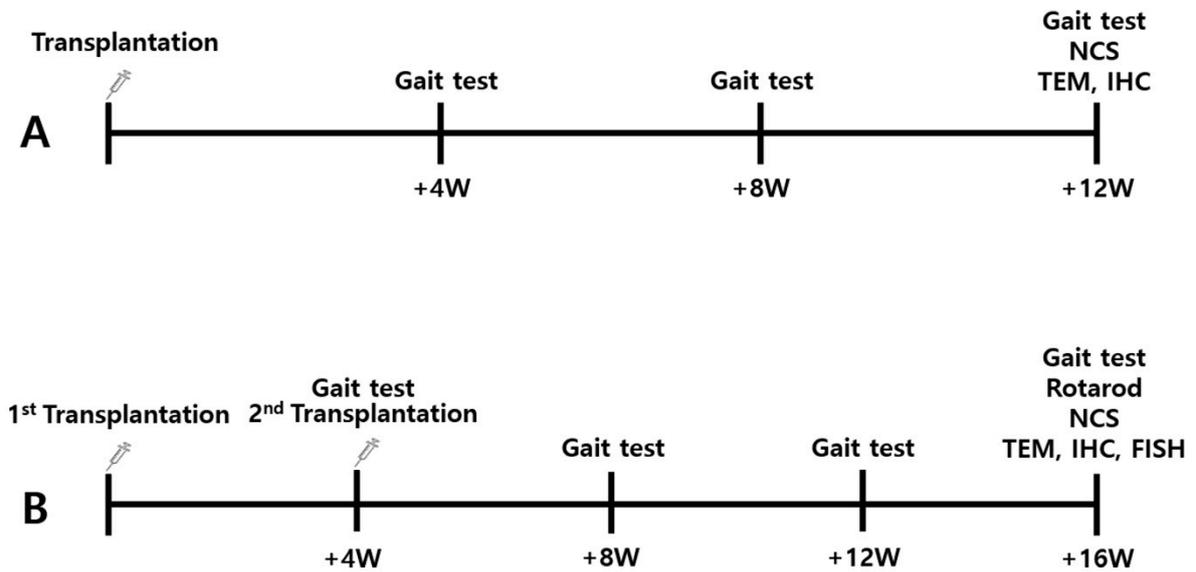


## Supplementary Figure S1



**Figure S1. Schematic diagram of experiment for assessment of efficacy after transplantation with NRPCs in C22 mice.** (A) Single-dose transplantation. (B) Repeated-dose transplantation. The repeated-dose was transplanted twice with a 4-week interval between each transplantation. The NRPC groups are the experimental group injected intramuscularly into both legs with  $2.5 \times 10^4$  (low),  $2.5 \times 10^5$  (medium), and  $5 \times 10^5$  (high) cells in 100  $\mu$ L CS10, respectively per thigh. NCS, nerve conduction study; TEM, transmission electron microscopy; IHC, immunohistochemistry; WB, western blot; FISH, fluorescence in situ hybridization; NRPC, neuronal regeneration-promoting cell.

## Supplementary Figure S2

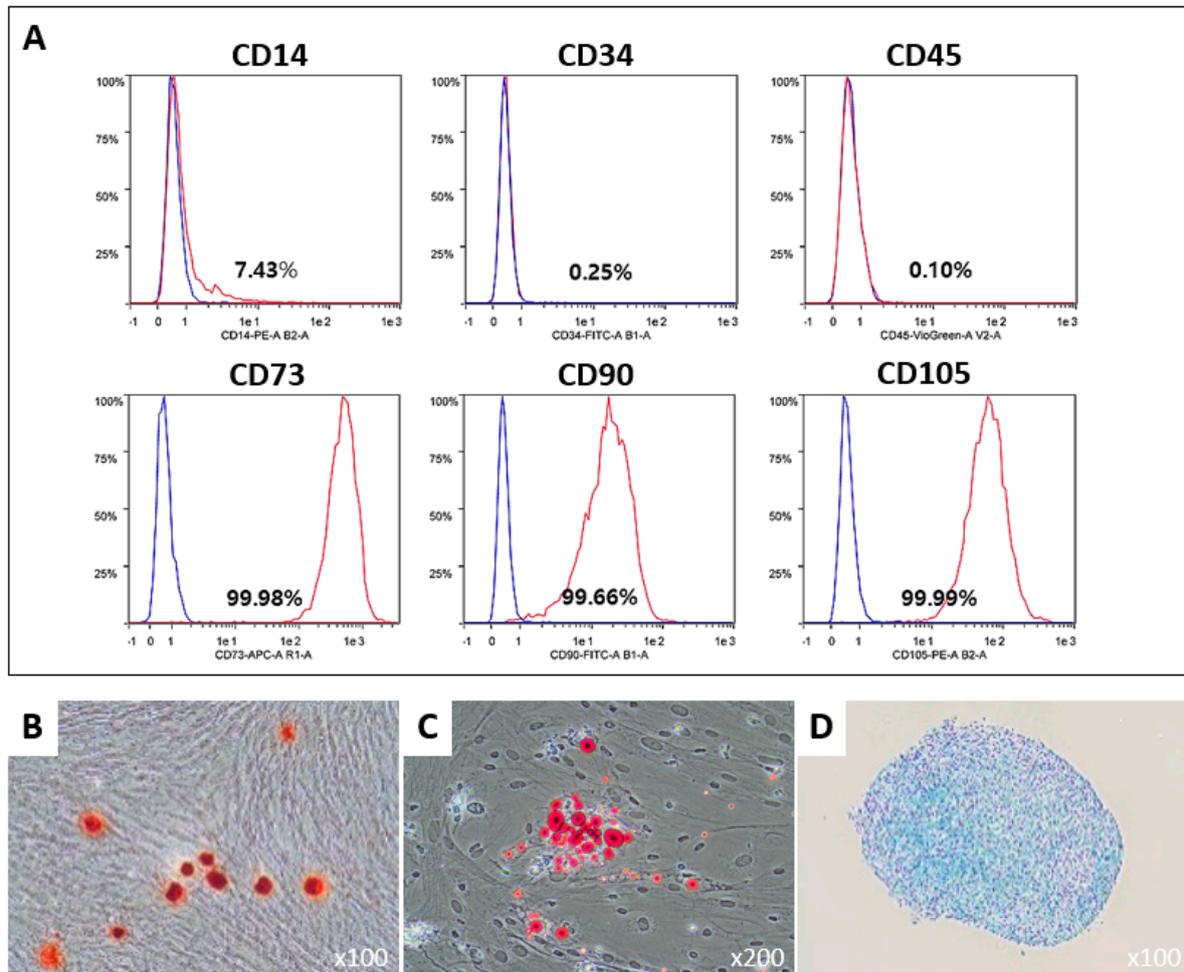
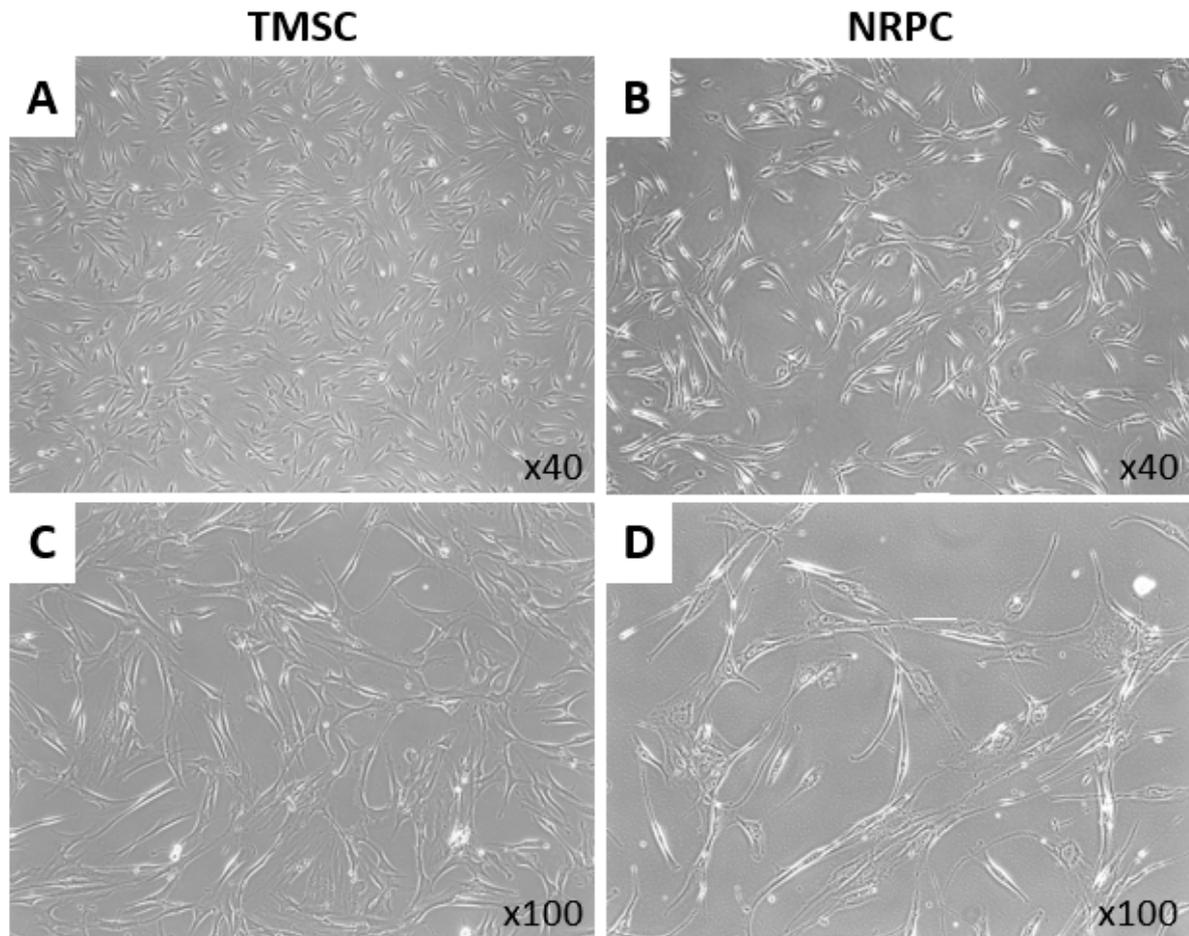


Figure S2. Characterization of human TMSCs as MSCs. (A) The profiles of MSC specific surface markers of TMSCs were analyzed by flow cytometry using CD14, CD34, CD45, CD90, CD73, and CD105. The blue histogram profiles indicate the isotype control, and the red histograms indicate a specific antibody. Establishment of the differentiation potential of TMSCs toward mesodermal lineages. TMSCs readily differentiated into osteoblasts, adipocytes, and chondrocytes, as stained by Alizarin Red (B), Oil Red (C), Safranin (D). MSCs, mesenchymal stem cells; TMSCs, tonsil-derived MSCs

Supplementary Figure S3



**Figure S3. Differentiation of NRPCs derived from TMSCs.** (A, C) TMSCs were observed under an inverted microscope (x40, x100). (B, D) NRPCs were observed under an inverted microscope (x40, x100). NRPCs exhibited morphological changes after differentiation, such as an elongated bipolar or tripolar spindle shape, with thinner cytoplasmic extensions and larger nuclei than TMSCs. TMSC, tonsil-derived MSC; NRPC, neuronal regeneration-promoting cell.

## Supplementary Table S1

**Table S1. Antibody information used for immunohistochemistry.**

| Name  | Dilution | Vendor            | Catalog No. |
|---|----------|-------------------|-------------|
| Rabbit anti-neurofilament heavy (NF-H)  | 1: 50    | Santa Cruz        | sc-20112    |
| Chicken anti-myelin basic protein (MBP)                                       | 1: 50    | Sigma-Aldrich     | AB9348      |
| Mouse anti-myosin heavy chain 8 (MYH8)  | 1: 50    | DSHB              | N3.36       |
| Mouse anti-myosin heavy chain 1 E (MYH1E)                                     | 1: 50    | DSHB              | MF 20       |
| Rabbit anti-laminin   | 1: 50    | Novus Biologicals | NB300-144   |
| Rabbit anti-peripheral myelin protein 22 (PMP22)                              | 1: 50    | Novus Biologicals | NBP2-67068  |
| Rabbit anti-myelin protein zero (MPZ)   | 1: 50    | Abcam             | ab183868    |
| Goat anti-rabbit IgG (H+L) cross-adsorbed secondary antibody, Alexa Fluor 568 | 1: 100   | Invitrogen        | A-11011     |
| Goat anti-chicken IgY (H+L) secondary antibody, Alexa Fluor 488               | 1: 100   | Invitrogen        | A-11039     |
| Goat anti-mouse IgG, IgM (H+L) secondary antibody, Alexa Fluor 488            | 1: 100   | Invitrogen        | A-10680     |
| Goat anti-rabbit IgG (H+L) cross-adsorbed secondary antibody, Alexa Fluor 488 | 1: 100   | Invitrogen        | A-11008     |