Supplemental information

Supplemental Figures

Supplemental Figure 1. Effect of NPCs graft on neurotrophic factors at mRNA level
Supplemental Figure 2. Effect of NPCs graft on protein levels of neurotrophic factors
Supplemental Figure 3. Confocal microscopy profiling to determine the phenotype of grafted cells
Supplemental Figure 4. Stereological PC count

Legends to Supplemental Figures

Supplemental Figure 1. Effect of NPCs graft on neurotrophic factors at mRNA level

mRNA levels for BDNF, GDNF, NGF and NT3 were determined in the whole cerebellar tissues of SCA1-NPC and –L15 animals. All values are normalized and relative to SCA1-L15, set to 100. None of the growth factors mRNA is different between 2 groups.

Supplemental Figure 2. Effect of NPCs graft on neurotrophic factors at protein level
Western blot analysis of whole cerebellar tissues of SCA1-L15 and –NPC mice has not shown any difference at protein levels of GDNF, BDNF, NT3 and NGF precursor.

**Supplemental Figure 3. Confocal microscopy profiling to determine the phenotype of grafted cells**

To determine the phenotype of grafted cells, optical sections (1 µm thick) of immunostained cerebellar sections were collected sequentially for each fluorochrome and profiling was performed to detect colocalization of grafted cell (GFP, green) with NeuN (red) [A] and GFAP (red) [B]. The arrows correspond to the intensity of all fluorochromes in given profile curves.

**Supplemental Figure 4. Stereological PC count**

PCs are counted by applying the ‘counting top’ principle in randomly chosen sets of confocal microscope-acquired z-stack images representing dissector. In the example here, a count of 2 PCs (indicated by the yellow circles) is obtained in the area inside the white box.
Supplemental Videos

Supplemental Video 1: Cerebellar cortex of SCA1-L15 mice

Cryostat section of the lobule VIII in the vermis was immunostained with calbindin antibody to reveal PCs soma and dendrites and laser scanned by confocal microscope.

Supplemental Video 2: Cerebellar cortex of SCA1-NPC mice

Cryostat section of the lobule VIII in the vermis was immunostained with calbindin antibody to reveal PCs soma and dendrites and laser scanned by confocal microscope.

Supplemental Video 3: Cerebellar cortex of WT mice

Cryostat section of the lobule VIII in the vermis was immunostained with calbindin antibody to reveal PCs soma and dendrites and laser scanned by confocal microscope.

Supplemental Video 4: Direct cell-cell contact between donor-derived GFP pos cells (green) and host purkinje cells (red) in 24 wks old grafted SCA1 mice

Optical sections (1 µm thick) of immunostained cerebellar sections containing transplanted cells in the vicinity of host PCs were sequentially collected for GFP (donor-derived cell), Calbindin (host PC) and DAPI (all cell nuclei). Projection of individual sections and 3D analysis demonstrate that donor-derived cell processes enwrapped PC somata and is in direct contact with host cell.
**Supplemental Table**

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<th>Gene Name</th>
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<td>Glial cell line derived neurotrophic factor</td>
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**Supplementary Table 1**: Quantitative real-time PCR primers, related conditions and amplicons