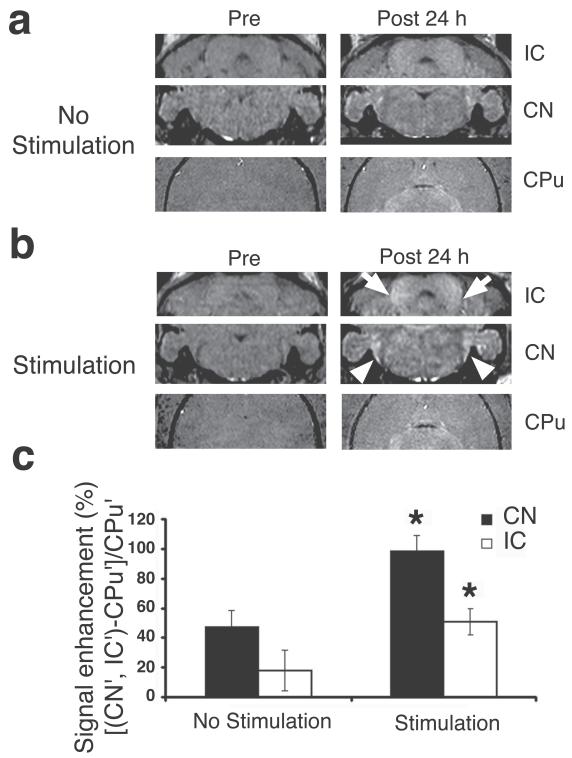
Supplementary Figure 2 Sound-stimulation produced significant MEMRI enhancement in auditory brainstem nuclei.



MR images were acquired before (Pre) and 24-h after (Post 24h) injection of MnCl2. For the 24-h period following MnCl2 injection, mice were maintained in the acoustic isolation chamber with either no sound stimulation (**a**; $n = 7$) or with sound stimulation (**b**; $n = 7$). Compared to no stimulation, the mice exposed to 24-h of sound stimulation showed significant enhancement (two-tail t-test) in both inferior colliculus (IC, arrows) and cochlear nucleus (CN, arrowheads), (**c**; $^*P < 0.05$, $n = 7$), while there was no difference in the caudate putamen (CPu). Data were analyzed by first defining the MEMRI signal change in each brain region:

CN' = CNPost - CNPre; IC' = ICPost - ICPre; CPu' = CPuPost - CPuPre.

As in other data presented, enhancement was normalized to the CPu in each mouse: Enhancement = [(IC', CN') – CPu'] / CPu'.