Supplementary Figure 1. Senescence-regulated astroglial circRNAs. (A) Base information TAB after filter; (B) Genomic alignment data quality assessment; (C) Length distribution of circRNA; (D) circRNAs distribution on chromosome. Sequencing libraries were constructed using Illumina TruSeq RNA Sample Preparation Kits and were sequenced with an Illumina HiSeq™ 2500 flowcell.
Supplementary Figure 2. The enrichment of different expression circRNAs in the senescence-regulated astrocyte.
Supplementary Figure 3. The KEGG enrichment (A) and reactome enrichment (B) of different expression circRNAs in the senescence-regulated astrocyte.
Supplementary Figure 4. The construction of over-expression circNF1-419-transfected rat astrocyte. (A) vector of over-expression circNF1-419 construction; (B) Lentivirus packaging and circNF1-419-transfected astrocytes.
Supplementary Figure 5. AAV viral transduction system with RNA interference (sicircNF1-419-AAV, A, B) and separately an over-expressing circNF1-419 (sscircNF1-419-AAV, C, D).
Supplementary Figure 6. The AD marker proteins such as Tau, p-Tau, Aβ A4, APOE, and BACE1 were inhibited, and the senescence-associated biomarkers p21 and p35 were improved after treatment with circNFI-419-OV-AAV for 2 months, also some inflammatory factors, NF-κB and TNF-α were inhibited.
Supplementary Figure 7. Fluorescent in situ hybridization (FISH) was used to detect circNF1-419-OV-AAV in infected brain tissue, (A) cortex and (B) hippocampus.
Supplementary Figure 8. The computer-aided molecular simulation demonstrated that the dynamin-1 and AP2B1 protein binds the circNF1-419.
Supplementary Figure 9. *CircNF1-419* improves the brain transcriptome of AD mice. The KEGG pathway analysis of different expressed mRNA of brain tissues were showed after injection of an AAV viral transduction system with RNA interference (sicircNF1-419-AAV) and separately an over-expressing *circNF1-419* (sscircNF1-419-AAV).