Supplementary materials and methods

Construction of vectors and purification of recombinant proteins

Full-length mouse Pdx-1 and Pdx-1-VP16 open reading frames were amplified by PCR, respectively, from pGEM-T-Pdx-1 and pTTR-pdx1-VP16-Elastase-GFP which contains the VP16 transactivation domain of Herpes simplex virus I fused to the C-terminus of mouse Pdx-1 (a generous gift from M. Horb). PCR was carried out using: forward Pdx-1 primer with NdeI site 5’-GCCACGCATATGAAACAGTGAGGAG-3’ or BamHI site 5’-GACGACGGATCCATAACAGTGAGGAG-3’; reverse Pdx-1 primer 5’-GCAAGCTTTCACCCCTAGAC-3’ or Pdx-1-VP16 primer 5’-GACCGCAAGCTTCAACTCATCAA-3’ with HindIII sites. pET28b-TAT-v2-1 expression plasmid containing the HIV TAT protein PTD (named TAT in this study) was kindly provided by S. Dowdy. PCR products were inserted into NdeI-HindIII sites of pET28b-TAT-v2-1 to construct Pdx-1 and Pdx-1-VP16, and into the BamHI-HindIII site or the blunted SalI-HindIII site to construct TAT-Pdx-1 and TAT-Pdx-1-VP16, respectively.

PTD<sub>Pdx-1</sub>-eGFP was constructed by fusing the PTD of Pdx1 (RHIKIWFQNRRMKWKK) to eGFP as follows: PTD<sub>Pdx-1</sub> was amplified by PCR on pTTR-Pdx-1-VP16–Elastase-GFP with forward primer featuring NdeI site 5’-CGACGACGGATCCATAACAGTGAGGAG-3’ and reverse primer featuring BamHI site 5’-ATATGGATCCTTTTCCACTTCA-3’; eGFP was amplified from pEGFP1 (Clontech, France) using forward primer with BamHI site 5’-TGATGGATCCAGGAGTGAGCAAG-3’ and reverse primer with HindIII site 5’-CGTGAAAGCTTTCACTTGTACAGCTC-3’. PTD<sub>Pdx-1</sub> and eGFP products were inserted into NdeI-BamHI and BamHI-HindIII sites of pET28b-TAT-v2-1 to yield PTD<sub>Pdx-1</sub>-eGFP.

TAT-eGFP was constructed by amplification of eGFP from pEGFP1 using forward primer with BamHI site 5’-TGATGGATCCAGGAGTGAGCAAG-3’ and reverse primer with HindIII site 5’-CGTGAAAGCTTTCACTTGTACAGCTC-3’ and insertion into blunted BamHI-HindIII sites of pET28b-TAT-v2-1.

eGFP was amplified from pEGFP1 with forward primer containing NdeI site 5’-CGACTCATATGGGTAGCAAGG-3’ and reverse primer with XhoI site 5’-CATTCTGAGCTTTGTACAGCTC-3’ and inserted into NdeI-XhoI sites of pET 21a (+) expression vector (Novagen, WI, USA).