Supplementary Methods

Construction of the pBI-EGFP-TetO-ΔGR vector.
To construct the pBI-EGFP-TetO-ΔGR vector, a three-step strategy was used. First, in order to homogenize both polyA signals, we replaced the fragment containing the SV40 poly A signal in the pBI Tet vector (# 6152-1, Clontech, USA) with the β-Globin poly A signal that was amplified by PCR using Pfu DNA polymerase (Stratagene, USA). The β-Globin polyA signal was amplified by PCR using the following oligonucleotides.
Forward primer: ACGCGTCCAGCAGCAGAATTCAGGGTGAGTTTGG/
reverse primer: CTTTGACCACGTGATGCAGTGGAGATTTGG.
Respectively, a Sal I restriction site in 5’ (underlined) in the forward primer and a PshAI restriction site in 3’ (underlined) were added. Since Pfu DNA polymerase generates blunt ends, the PCR product was digested only by SalI and cloned SalI/Blunt into the pBI Tet vector previously digested by SalI and NaeI (Blunt). The second step consisted of amplifying by PCR the EGFP from the vector pEGFP-N1 (Clontech, USA) using the following primers:
Forward primers: ATAAGAATGCGGCCGC
reverse primer: GCGCCGACTGCGACCTTTTAAGTTGG.
In the forward primer, a NotI site (underlined) was added upstream the start codon (bold) while in the reverse primer, a SalI site (underlined) was added downstream the stop codon (bold). The PCR fragment previously digested by SalI/Sall was cloned into the pBI-Tet vector from the first step previously digested by SalI/Sall. Finally, the third step consisted to clone the ΔGR gene in the previous vector. The ΔGR gene was amplified by PCR from the plasmid pSV40-ΔGR previously generated. The forward primer contains a NheI site (underlined) upstream the start codon (bold) and the reverse primer contains an EcoRV site (underlined) downstream the stop codon (bold). The PCR product was digested by NheI/EcoRV and cloned into the EGFP-pBI Tet vector from the second step previously digested by the same enzymes. The resulting construct, named pBI-EGFP-TetO-ΔGR vector, expresses two genes (EGFP and ΔGR) from one bidirectional tet-responsive promoter.

RT-PCR analysis
The following primers were used for PCR amplification:
For the Ras gene, Ras forward: TGCCTATGGTCCTGGTAGGG, Ras reverse:
GAAGGCATCGTCAACACCCTG (amplified length: 144bp). For the Raf-1 gene, Raf-1 forward: AACCCCCGGCAGCACAAG, Raf-1 reverse: CCACTGATCGACACATCGCAG (amplified length: 344bp). For the B-actin gene, B-actin forward:
ATGCTCTCCCTACACATCGAC, B-Actin reverse: GTGGTACCACAGAGACAGG (amplified length 407 bp). For the Erk1 gene, Erk1 forward: GCACGACCACACTGCTTTC, Erk1 reverse:
GACGACCACACTGCTTTC, Erk2 forward: ACAGGACCTCAGGAGAGCCG, Erk2 reverse: GATCTGCAACAGGCGCGAGG (amplified length 216bp). For the Egr-1 gene, Egr-1 forward:
CCATATGCTGGCCTCCCTCGG, Egr-1 reverse: GCACGAGGATGGAATGAG (amplified length 380bp).

Behavioral experiments
Experiments were performed using C57/BL6 JI Co (IFFA Credo, Arbradesle, France) male mice housed individually 7 days before the experiment and maintained in an animal room under standard conditions as described in the methods. All experimental procedures took place during the light portion of the dark/light cycle. Mice were handled daily for 5 min three days before the start of the contextual conditioning procedure. Fear conditioning took place in a plexiglass box (30 x 24 x 22 cm high). The floor of this conditioning chamber consisted of 60 stainless steel rods (2 mm diameter), spaced 5 mm apart and connected to a shock generator (Imetronic, Talence, France). The four sides of the chamber and the rods of the floor were cleaned with 70 % ethanol before each trial. Each animal was placed in the
conditioning chamber for 4 min during which it received 2 footshocks which never co-
occurred with 2 tones (63 db, 1 KHz, 15 s) delivery. Each animal was then replaced in its
home cage. Twenty-four hours later, mice were re-exposed to the conditioning chamber and
the behavior of the subjects was continuously recorded on video tape for off-line scoring of
freezing. After completion of the behavioural study, animals were given an overdose of
ketamin (24ml/kg) and transcardially perfused with physiological saline, followed by 10%
buffered formalin. Brains were post-fixed in formalin-saccharose 30% solution for 1 week,
frozen, cut coronally on a sliding microtome into 50 µm sections that were mounted on a
gelatin-coated slide, and stained with thionine in order to evaluate the cannulae placements.