Supplementary Material

Supplemental Methods

S1: Characterisation of *Cacna1c*$^{+/-}$ rats

Cacna1c$^{+/-}$ rats show approximately 50% *Cacna1c* mRNA reduction throughout the brain and a similar decrease in $Ca_V1.2$ protein. Basic behaviour tasks revealed that there were no differences between *Cacna1c*$^{+/-}$ rats and wild-types in terms of locomotion or anxiety (Sykes et al, 2019). Genotypes were determined by PCR analysis (Fwd: 5'-GCTGCTGAGCCTTTTATTGG-3'; Rev: 5'-CCTCCTGGATAGCTGCTGAC-3').

S2: Description of rat conditioning chambers used

Conditioning chambers were 32cm x 25.5cm x 27cm, with shock grid floors (19 stainless steel rods, 1 cm apart, 4.8mm diameter, Sandown Scientific, UK) above a stainless-steel pan. The chambers were enclosed within a second sound attenuating chamber with a ventilation fan providing background noise of 63db.

S3: Freezing following CS without associated footshock

There were no incidences of freezing behaviour from either wild-types or *Cacna1c*$^{+/-}$ rats when presented with the auditory cue in the absence of the associated US (p = 1) (Table S1)

Table S1: Freezing behaviour following CS presentation (Mean +/- SEM)

	Baseline (Freezing %)	Following CS presentation (Freezing %)
Wild-types	0 +/- 0	0 +/- 0
Cacna1c$^{+/-}$	0 +/- 0	0 +/- 0