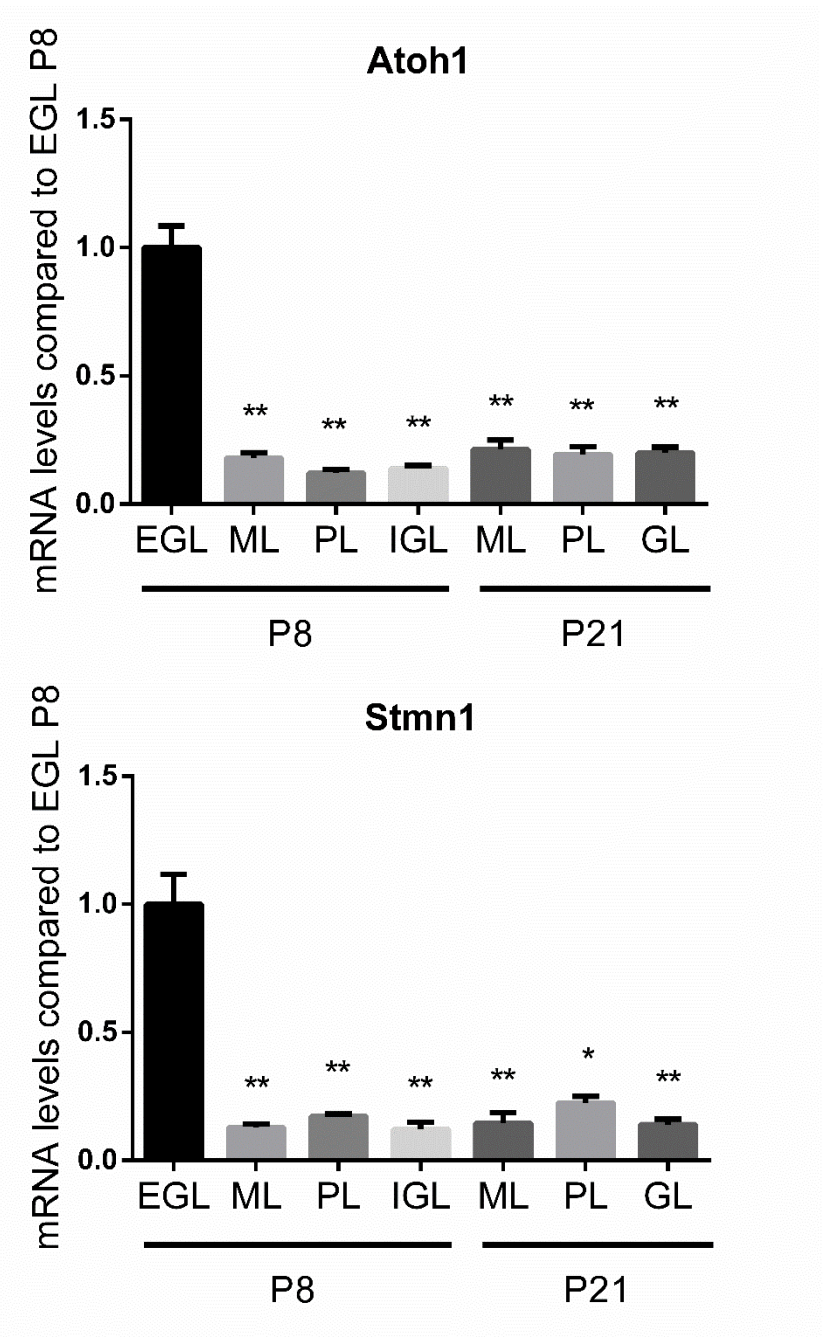


FIG. S1. **Expression of gene markers of the external granule cell layer.** Gene expression was measured by real-time PCR analysis at P8 (postnatal day 8) and P21. Each value is the mean (± SEM) of 4 cerebella. Statistical analysis was performed with the Kruskal-Wallis test followed by Dunn's test: **P* < 0.05, ***P* < 0.01 versus P8 EGL. EGL: external granule cell layer; ML: molecular layer; PL: Purkinje cell layer; IGL: internal granule cell layer; GL: granule cell layer; Atoh1: atonal bHLH transcription factor 1; Stmn1: stathmin 1.

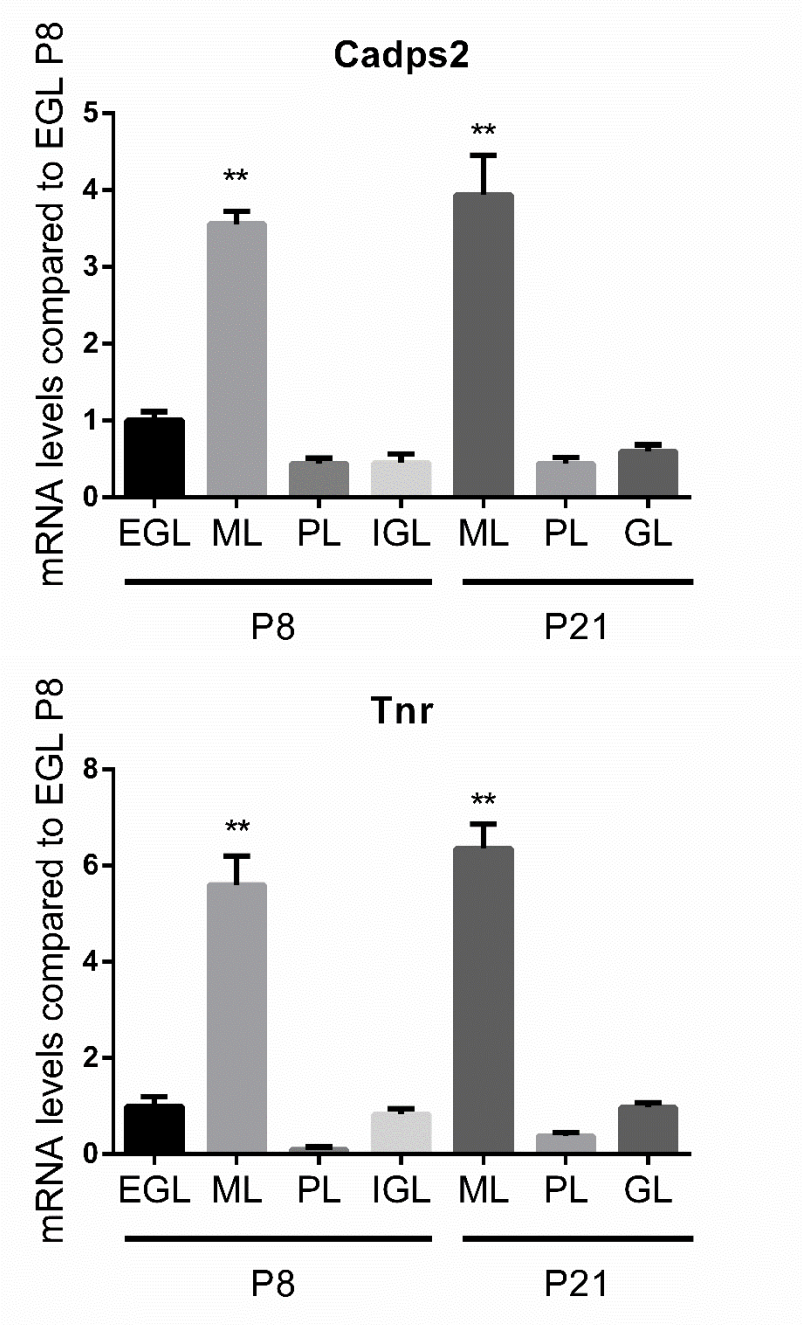
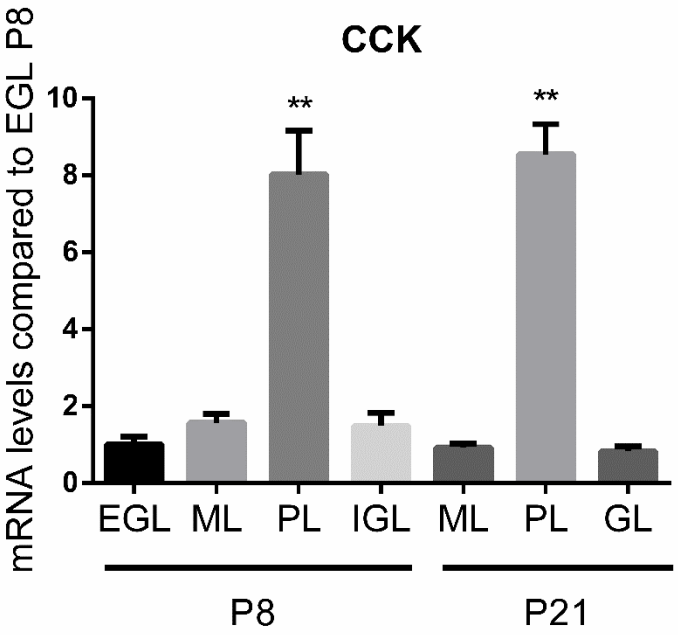


FIG. S2. **Expression of gene markers of the molecular layer.** Gene expression was measured by real-time PCR analysis at P8 (postnatal day 8) and P21. Each value is the mean (± SEM) of 4 cerebella. Statistical analysis was performed with the Kruskal-Wallis test followed by Dunn's test: **P* < 0.05, ***P* < 0.01 versus P8 EGL. EGL: external granule cell layer; ML: molecular layer; PL: Purkinje cell layer; IGL: internal granule cell layer; GL: granule cell layer; Cadps2: calcium-dependent secretion activator 2; Tnr: tenascin R.



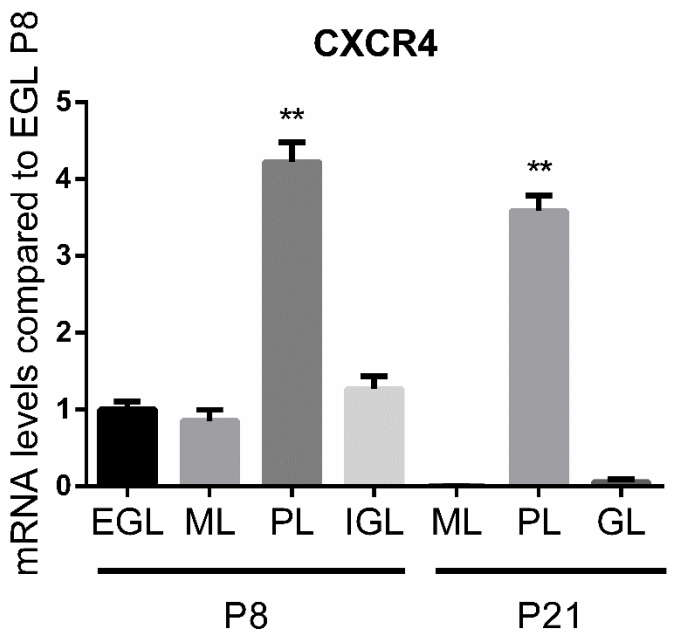


FIG. S3. **Expression of gene markers of the Purkinje cell layer.** Gene expression was measured by real-time PCR analysis at P8 (postnatal day 8) and P21. Each value is the mean (± SEM) of 4 cerebella. Statistical analysis was performed with the Kruskal-Wallis test followed by Dunn's test: **P* < 0.05, ***P* < 0.01 versus P8 EGL. EGL: external granule cell layer; ML: molecular layer; PL: Purkinje cell layer; IGL: internal granule cell layer; GL: granule cell layer; Cck: cholecystokinin; Cxcr4: SDF-1 receptor.

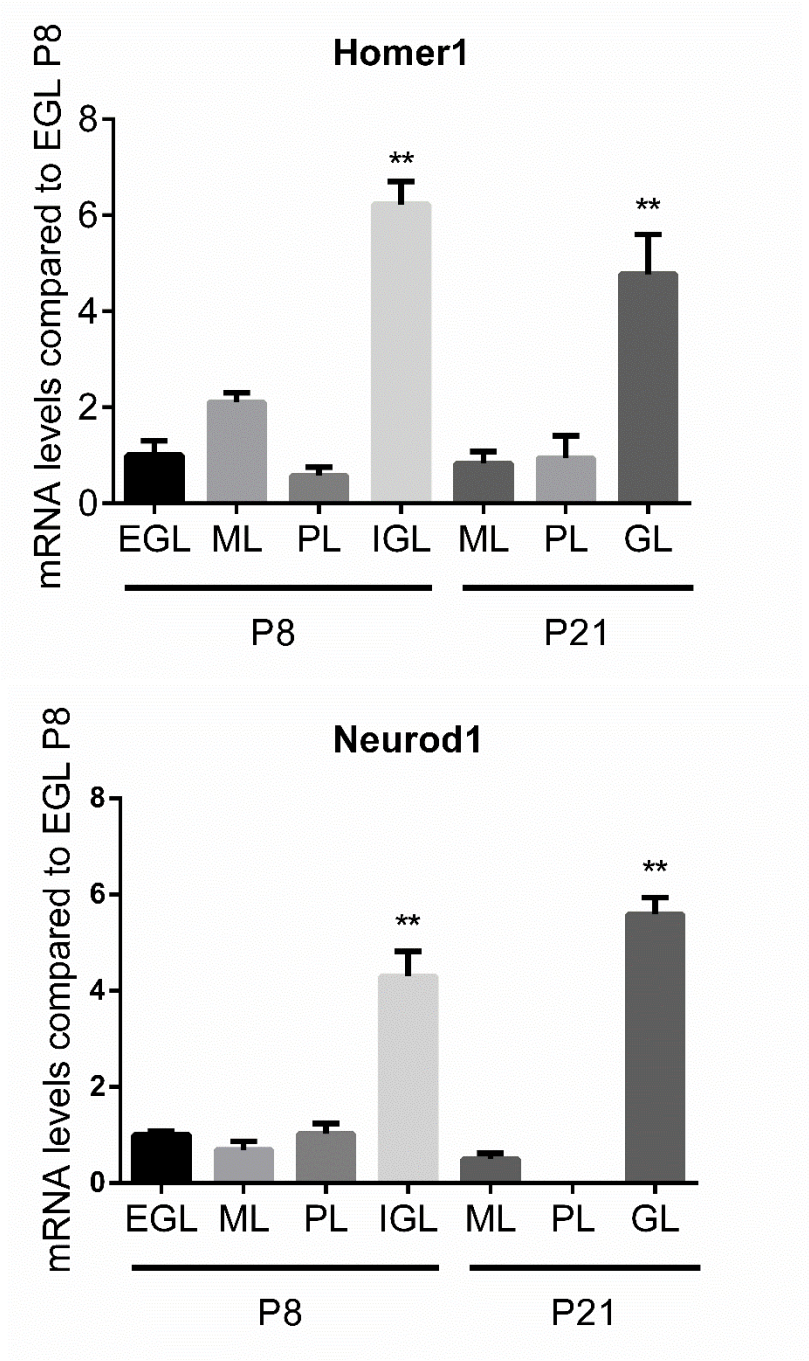


FIG. S4. **Expression of gene markers of the internal granule cell layer.** Gene expression was measured by real-time PCR analysis at P8 (postnatal day 8) and P21. Each value is the mean (± SEM) of 4 cerebella. Statistical analysis was performed with the Kruskal-Wallis test followed by Dunn's test: **P* < 0.05, ***P* < 0.01 versus P8 EGL. EGL: external granule cell layer; ML: molecular layer; PL: Purkinje cell layer; IGL: internal granule cell layer; GL: granule cell layer; Homer1: homer scaffolding protein 1; Neurod1: neurogenic differentiation 1.

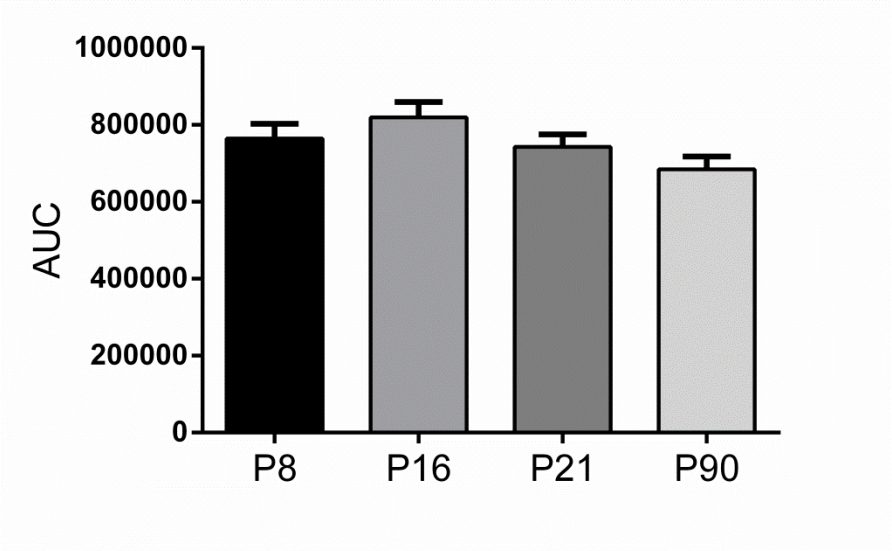


FIG. S5. **AUC measurement of human serum albumin.** Each value is the mean (± SEM) of 10 samples. Statistical analysis was performed with the Kruskal-Wallis test that revealed the lack of significant difference between the groups. AUC: area under the curve.

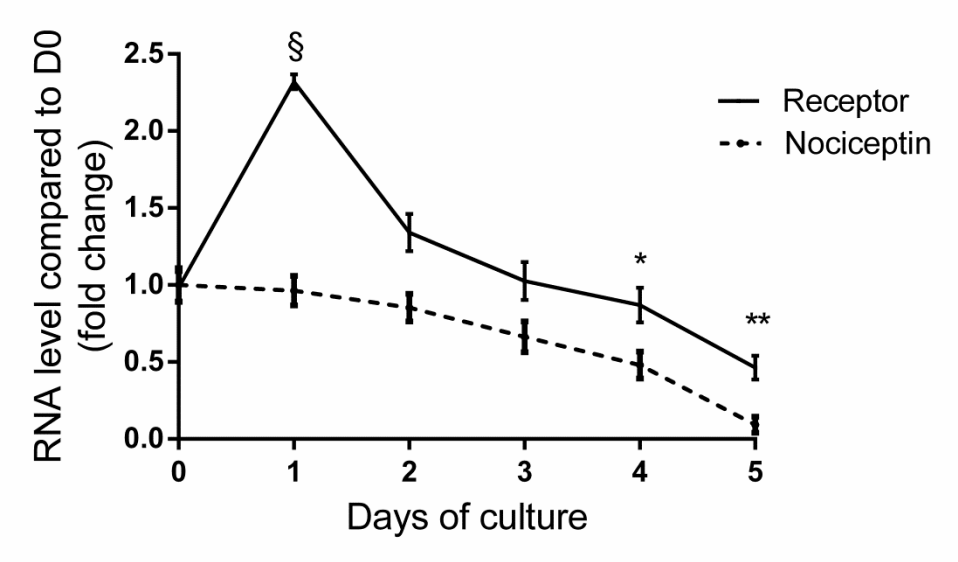


FIG. S6. **Expression of nociceptin and its receptor mRNA in cultured granule neurons.** Gene expression of nociceptin and its receptor genes expression were measured by real-time PCR analysis from plating to 5 days in culture. Each value is the mean (± SEM) of 4 cultures. Statistical analysis was performed with the Kruskal-Wallis test followed by Dunn's test: **P* < 0.05, ***P* < 0.01 versus nociceptin gene expression at D0. § *P* < 0.05 versus nociceptin receptor gene expression at D0. D0: day of plating.

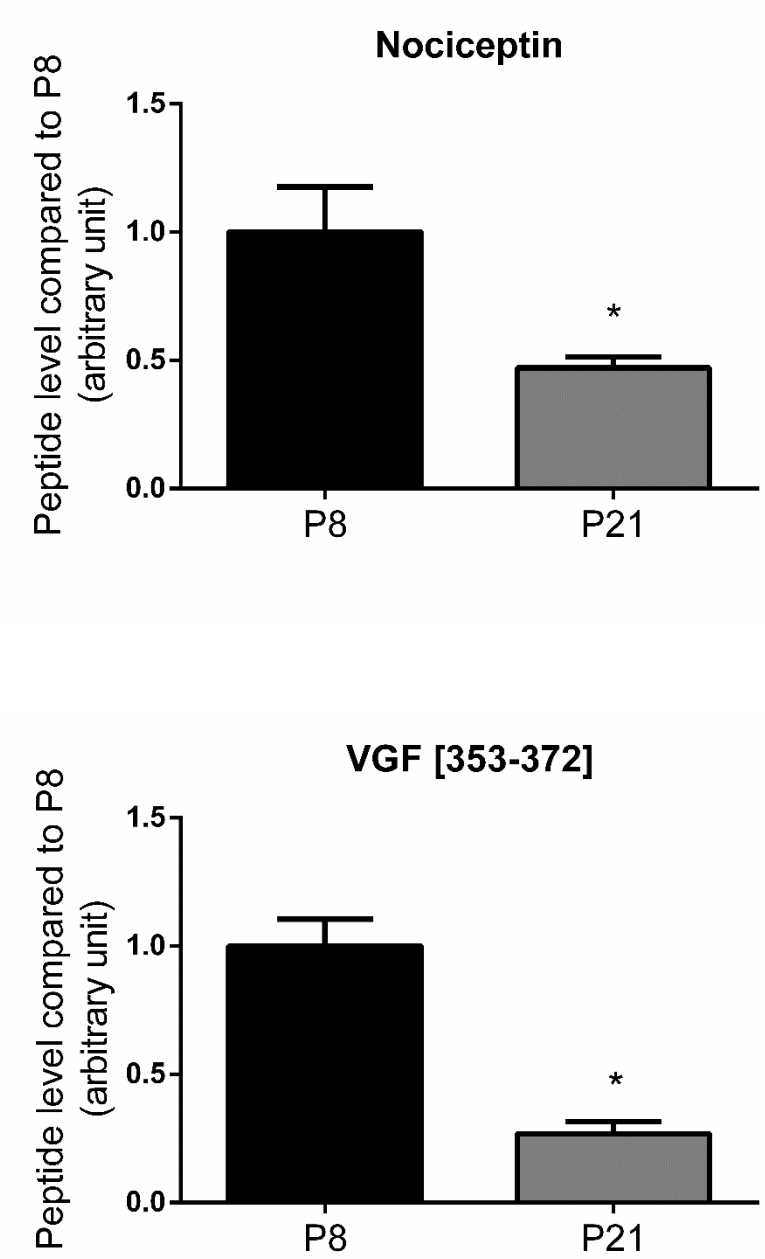


FIG. S7. **Quantification of nociceptin and VGF [353-372] during development.** Relative expression level of nociceptin and VGF [353-372] during development between P8 (postnatal day 8) and P21 was measured by targeted MS/MS. Each value is the mean (± SEM) of 3 samples. Statistical analysis was performed with the Mann-Whitney test: **P* < 0.05 versus P8.