

Expanded View Figures

A

human	MVNLRNAVHSFLVHLIGLLVWQCDISVSPVAAIVTDIFNTSDGGR-FKFPDGVQNWPAIS
mouse	MVNLGTAVRSLLVHLIGLLVWQFDISISPVAAIVTDTFNSSDGGRLFQFPDGVQNWPAIS
	**** .**.*:***** ***:***** **:***** *:*****
human	IVIIIMTIGGNILVIMAVSMEKKLHNATNYFLMSLAIADMLVGLLVMP LSLAILYDYV
mouse	IVVIIIMTIGGNILVIMAVSMEKKLHNATNYFLMSLAIADMLVGLLVMP LSLAILYDYV
	** :*****
human	WPLPRYLCPVWISLDVLFSTASIMHLCAISLDR CIS <u>SSYP</u> CDWTEGRRKGVREQHADVRAQR
mouse	WPLPRYLCPVWISLDVLFSTASIMHLCAISLDR SF <u>SSYP</u> CDWTEGRKQSVRE-----
	***** :***** :.***
human	PKFRSYWVLRSFLHTADDYGDYVLPDHLRSAPT SFDVTARPHRGTAWTKSGFPEVLQEEY
mouse	-----
human	GRGRELCKP
mouse	-----

B

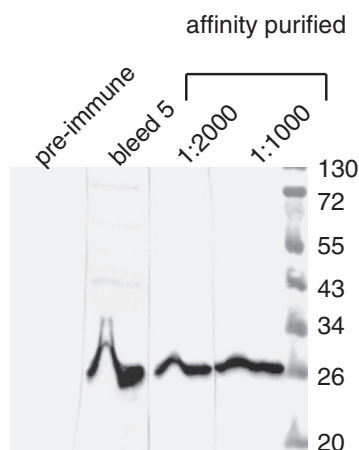


Figure EV1. Antiserum against the truncated form of the serotonin 2C receptor (RNA1).

A Sequence comparison between the human and mouse truncated 5HT2C. The amino acids encoded by exon VI are in bold. The peptide sequence used to generate the rabbit antiserum is underlined.

B Characterization of the antiserum. HEK293 cells were transfected with a cDNA encoding the human RNA1. A high titer developed after five rounds of immunization (bleed 5). The human protein has a predicted molecular weight of 28 kd. The mouse protein has a predicted molecular weight of 19 kd and runs slightly slower, possibly due to posttranslational modifications common for membrane proteins.

Source data are available online for this figure.

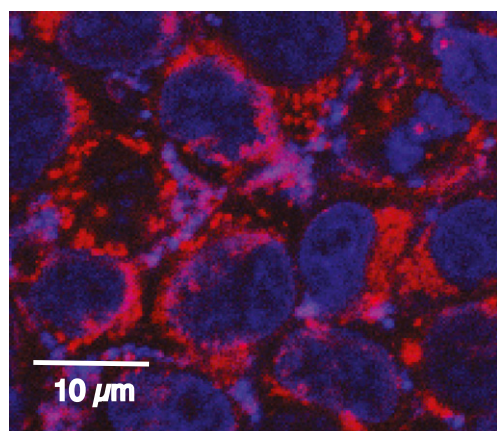


Figure EV2. Uptake of Cy3-labeled oligo#5 in HEK293 cells.

The oligo (red) was added to the cell culture medium, and 3 h later, the medium was changed and cells were visualized. The nuclei are stained with DAPI (blue).

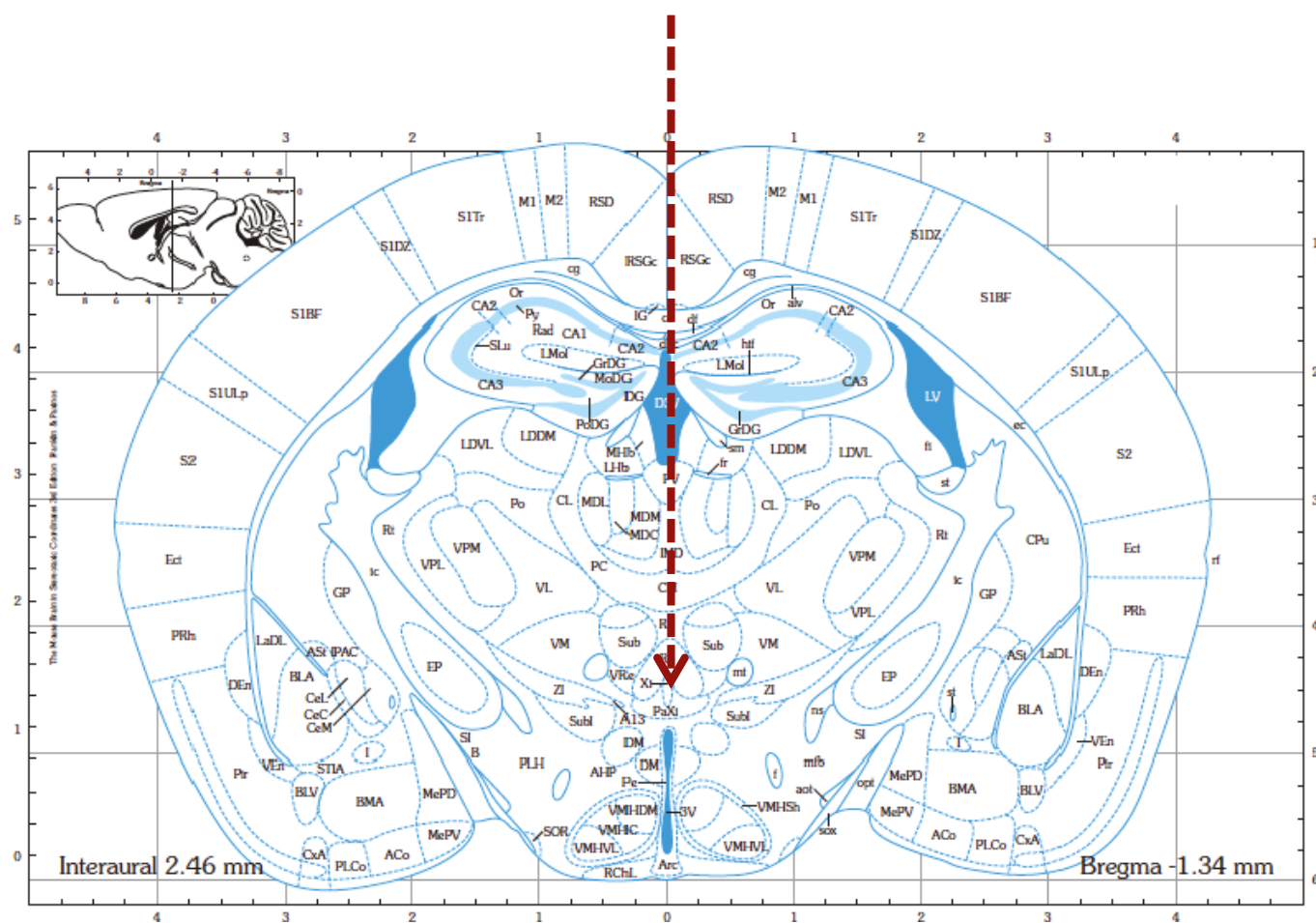


Figure EV3. Overview of the injection strategy using a coronal section of the area used.

The arrow indicates the guide cannula for injection into the third ventricle. The injection cannula is inserted into the 3rd ventricle.

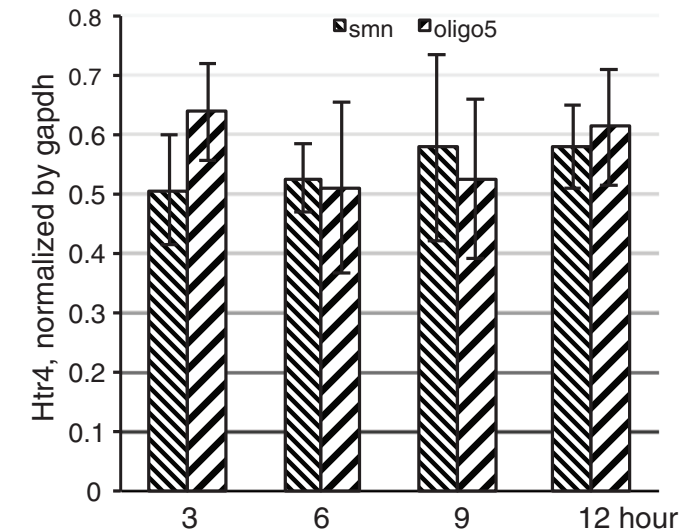


Figure EV4. Effect of oligo#5 on Htr4 expression.
The same RNA as in Fig 5E and G was used and was analyzed by qPCR using primers that detect Htr4. Injection of 2 μ g of an oligo against human SMN2 was used as a unspecific control, since there is no SMN2 sequence in mice. $n = 4$, error bars indicate standard error.

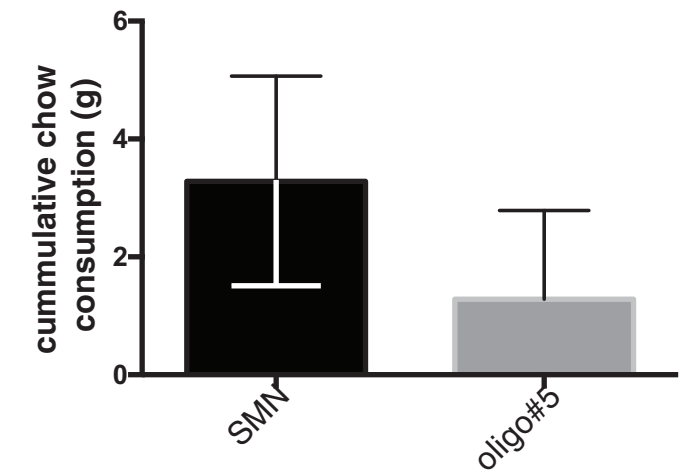


Figure EV5. Effect of oligo#5 on food uptake in MCR4 KO mice.
MCR4 knockout mice were treated as wild-type mice (Fig 5E) and were injected with 1 μ g oligo#5. There was no significant difference in food uptake after 12 h ($P = 0.1965$, $t = 1.548$, $df = 4$, $n = 6$ paired t-test). Error bars indicate standard deviation.

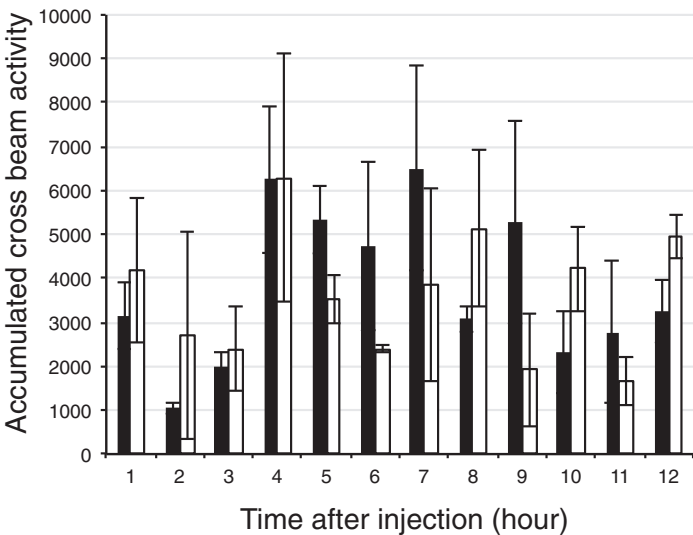


Figure EV6. Activity of mice after oligo#5 injection.
The activity of mice receiving oligo#5 or control SMN oligo was measured using the numbers of beam-crossing in metabolic cages. There is no statistical significant difference between groups. $n = 12$, error bars indicate standard deviation.