

Accepted Manuscript

Title: Gastrin-Releasing Peptide attenuates fear memory reconsolidation

Authors: A. Murkar, P. Kent, C. Cayer, J. James, Z. Merali

PII: S0166-4328(17)31210-X
DOI: <https://doi.org/10.1016/j.bbr.2017.11.037>
Reference: BBR 11196

To appear in: *Behavioural Brain Research*

Received date: 24-7-2017
Revised date: 20-11-2017
Accepted date: 26-11-2017

Please cite this article as: Murkar A, Kent P, Cayer C, James J, Merali Z. Gastrin-Releasing Peptide attenuates fear memory reconsolidation. *Behavioural Brain Research* <https://doi.org/10.1016/j.bbr.2017.11.037>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Gastrin-Releasing Peptide attenuates fear memory reconsolidation

Running Head: GRP ATTENUATES FEAR MEMORY RECONSOLIDATION

Murkar, A^{1,3}, Kent, P^{1,3}, Cayer, C³, James, J³, & Merali, Z^{1,2,3,*}

¹School of Psychology and ²Faculty of Medicine, University of Ottawa

³The Royal's Institute of Mental Health Research affiliated with the University of Ottawa

Word Count (Abstract): 245

Word Count (Manuscript Body): 4113

References: 53

Figures: 5

Tables: 0

Abstract

Background: Gastrin Releasing Peptide (GRP) may play a role in fear learning. The GRP Receptor is expressed in the basolateral amygdala and hippocampus, and central administration of GRP mediates fear learning. The effects of GRP on reconsolidation, however, have been minimally explored. Reconsolidation, the process by which formed memories are rendered labile following recall, provides a window of opportunity for pharmacological intervention. Although evidence suggests the window of opportunity to alter reactivated consolidation memory can be as long as 6 h, shorter intervals have not been extensively investigated.

Method: Male Sprague-Dawley rats received six 1.0 mA continuous footshocks. 24 h later, were re-exposed to the context (shock chamber). Immediately following memory retrieval rats received i.p. injection of GRP (10 nmol/kg), Flumazenil (1 mg/kg), GRP + Flumazenil (10 nmol/kg GRP with 1 mg/kg Flumazenil), or Vehicle. Other groups received GRP or Vehicle at 0, 10, 30, or 60 min post-reactivation. 24 h and 5 days later rats were assessed for fear expression upon re-exposure to the fearful stimulus.

Results: GRP significantly attenuated the reconsolidation of learned fear when administered immediately (but not 10 min or longer) following recall. Some of the variability in the impact of treatments aimed at disrupting fear memories may be governed, in part, by the time-frame of the reconsolidation window. Our results indicate that the effect of immediate administration persisted

*All correspondence should be directed to Dr. Zul Merali, IMHR (613-722-6521), 1145 Carling Ave., Ottawa, Ontario, K1Z 7K4. merali@uottawa.ca

Download English Version:

<https://daneshyari.com/en/article/8837792>

Download Persian Version:

<https://daneshyari.com/article/8837792>

[Daneshyari.com](https://daneshyari.com)