

Accepted Manuscript

Title: Implication of regional brain serotonergic neurons in dorsal and median Raphé nuclei in adaptation to water lacking in *Gerbillus tarabuli*

Authors: Houari Boukersi, Nemcha Lebaili, Nathalie Samson, Sylvie Granon



PII: S0891-0618(17)30141-2
DOI: <https://doi.org/10.1016/j.jchemneu.2018.03.003>
Reference: CHENEU 1562

To appear in:

Received date: 14-7-2017
Revised date: 5-3-2018
Accepted date: 7-3-2018

Please cite this article as: Boukersi, Houari, Lebaili, Nemcha, Samson, Nathalie, Granon, Sylvie, Implication of regional brain serotonergic neurons in dorsal and median Raphé nuclei in adaptation to water lacking in *Gerbillus tarabuli*. Journal of Chemical Neuroanatomy <https://doi.org/10.1016/j.jchemneu.2018.03.003>

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.

Implication of regional brain serotonergic neurons in dorsal and median Raphé nuclei in adaptation to water lacking in *Gerbillus tarabuli*

Houari Boukersi^{1,2,3}, Nemcha Lebaili¹, Nathalie Samson³, Sylvie Granon³.

1-Laboratoire de physiologie animale, école normale supérieure de Kouba, Alger, Algérie

2-Département de biologie, faculté des sciences de la nature et de la vie, université Hassiba ben Bouali, CHLEF, Algérie

3-Institut des Neurosciences Paris-Saclay, Université Paris Sud 11, CNRS 9197, Orsay, France

ABSTRACT

The objective of this work was to investigate the implication of serotonin (5-HT) produced in the dorsal and medial raphe nuclei (DRN and MRN) in water homeostasis in desert animal *Gerbillus tarabuli*. For that, we measured the density of 5-HT immunolabeled neurons in hydrated and dehydrated animals (over 1 and six months). In this work, 5-HT positive neurons showed some change in shape and colour intensity in dehydrated gerbils comparing with hydrated gerbils. Furthermore a differential increase of 5-HT neurons density was observed in DRN subregions and in MRN following 1 and 6 months of dehydration.

This study suggested that neurons in DRN and MRN contain 5-HT in various amounts, thus allowing an adapted response to hydration status. These neurons could mediate one of the adaptation mechanisms of this animal to its desert biotope.

KEYWORDS

Dorsal raphe nucleus; Median raphe nucleus; Serotonin; 5-hydroxytryptamine; 5-HT, *Gerbillus tarabuli*; dehydration, immunohistochemistry

* Corresponding author.

E-mail address: houariboukersi@gmail.com (H. BOUKERSI).

ABBREVIATIONS: 5-HT, 5-hydroxytryptamine, serotonin; DRN: dorsal raphe nucleus; MRN: median raphe nucleus; Aq: aqueduct of sylvius; DRD: dorsal part of dorsal raphe nucleus; DRVL: ventro lateral part of dorsal raphe nucleus; DRV: ventral part of dorsal raphe nucleus; DRI: interfascicular part of dorsal raphe nucleus.

Download English Version:

<https://daneshyari.com/en/article/11010937>

Download Persian Version:

<https://daneshyari.com/article/11010937>

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