

Author's Accepted Manuscript

Human centromedian-parafascicular complex
signals sensory cues for goal-oriented behavior
selection

Inga M. Schepers, Anne-Kathrin Beck, Susann
Bräuer, Kerstin Schwabe, Mahmoud Abdallat,
Pascale Sandmann, Reinhard Dengler, Jochem W.
Rieger, Joachim K. Krauss



PII: S1053-8119(17)30227-6
DOI: <http://dx.doi.org/10.1016/j.neuroimage.2017.03.019>
Reference: YNIMG13894

To appear in: *NeuroImage*

Received date: 20 December 2016

Revised date: 28 February 2017

Accepted date: 9 March 2017

Cite this article as: Inga M. Schepers, Anne-Kathrin Beck, Susann Bräuer, Kerstin Schwabe, Mahmoud Abdallat, Pascale Sandmann, Reinhard Dengler, Jochem W. Rieger and Joachim K. Krauss, Human centromedian-parafascicular complex signals sensory cues for goal-oriented behavior selection, *NeuroImage* <http://dx.doi.org/10.1016/j.neuroimage.2017.03.019>

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 galley proof before it is published in its final citable 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.

Human centromedian-parafascicular complex signals sensory cues for goal-oriented behavior selection

Inga M. Schepers^{a,e*1}, Anne-Kathrin Beck^{b,e1}, Susann Bräuer^{a,e}, Kerstin Schwabe^{b,e}, Mahmoud

Abdallat^b, Pascale Sandmann^c, Reinhard Dengler^{d,e}, Jochem W. Rieger^{a,e2}, Joachim K. Krauss^{b,e2}

^aDepartment of Psychology, Oldenburg University, Germany

^bDepartment of Neurosurgery, Hannover Medical School, Germany

^cDepartment of Otorhinolaryngology, University of Cologne, Cologne, Germany

^dDepartment of Neurology, Hannover Medical School, Hanover, Germany

^eCluster of Excellence Hearing4All

E-mail: inga.maren.schepers@uni-oldenburg.de

**Correspondence should be sent to:* Inga M. Schepers. Department of Psychology, Faculty VI, Oldenburg University, 26129 Oldenburg, Germany

Abstract

Experimental research has shown that the centromedian-parafascicular complex (CM-Pf) of the intralaminar thalamus is activated in attentional orienting and processing of behaviorally relevant stimuli. These observations resulted in the hypothesis that the CM-Pf plays a pivotal role in goal-oriented behavior selection. We here set out to test this hypothesis with electrophysiological recordings from patients with electrodes implanted in CM-Pf for deep brain stimulation (DBS) treatment of chronic neuropathic pain. Six patients participated in (1) an auditory three-class oddball experiment, which required a button press to target tones, but not to standard and deviant tones and in (2) a multi-speaker experiment with a target word that required attention selection and a target image that required response selection. Subjects showed transient neural responses (8-15 Hz) to the target tone and the target word. Two subjects additionally showed transient neural responses (15-25 Hz) to the target image. All sensory target stimuli were related to an internal goal and required a behavior selection (attention selection, response selection). In group analyses, neural responses were greater to target tones than deviant and standard tones and to target words than other task-relevant words that did not require attention selection. The transient

¹ these authors contributed equally

² these authors contributed equally

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات