

[Sign In](#) | [My EndNote Web](#) | [My ResearcherID](#) | [My Citation Alerts](#) | [My Saved Searches](#) | [Log Out](#) | [Help](#)

# ISI Web of Knowledge<sup>SM</sup>

All Databases

Select a Database

Web of Science

Additional Resources

[Search](#)

[Cited Reference Search](#)

[Advanced Search](#)

[Search History](#)

[Marked List \(0\)](#)

## Web of Science®

[<< Back to results list](#)

◀ Record 6 of 108 ▶

Record from **Web of Science®**

## Effects of deep brain stimulation of the cerebellothalamic pathways on the sense of smell

Full Text

Print

E-mail

Add to Marked List

Find it PUL

Save to **EndNote® Web**

Save to **EndNote®, RefMan, ProCite** more options

Create Citation Alert

**Author(s):** [Kronenburger M](#) (Kronenburger, M.)<sup>1</sup>, [Zobel S](#) (Zobel, S.)<sup>1</sup>, [Ilgner J](#) (Ilgner, J.)<sup>2</sup>, [Finkelmeyer A](#) (Finkelmeyer, A.)<sup>3</sup>, [Reinacher P](#) (Reinacher, P.)<sup>4</sup>, [Coenen VA](#) (Coenen, V. A.)<sup>4,5</sup>, [Wilms H](#) (Wilms, H.)<sup>6</sup>, [Kloss M](#) (Kloss, M.)<sup>6</sup>, [Kiening K](#) (Kiening, K.)<sup>7</sup>, [Daniel C](#) (Daniel, C.)<sup>8</sup>, [Falk D](#) (Falk, D.)<sup>9</sup>, [Schulz JB](#) (Schulz, J. B.)<sup>1</sup>, [Deuschl G](#) (Deuschl, G.)<sup>8</sup>, [Hummel T](#) (Hummel, T.)<sup>10</sup>

**Source:** EXPERIMENTAL NEUROLOGY **Volume:** 222 **Issue:** 1 **Pages:** 144-152 **Published:** MAR 2010

**Times Cited:** 0 **References:** 72 [Citation Map](#)

**Abstract:** The cerebellum and the motor thalamus, connected by cerebellothalamic pathways, are traditionally considered part of the motor-control system. Yet, functional imaging studies and clinical studies including patients with cerebellar disease suggest an involvement of the cerebellum in olfaction. Additionally, there are anecdotal clinical reports of olfactory disturbances elicited by electrical stimulation of the motor thalamus and its neighbouring subthalamic region. Deep brain stimulation (DBS) targeting the cerebellothalamic pathways is an effective treatment for essential tremor (ET), which also offers the possibility to explore the involvement of cerebellothalamic pathways in the sense of smell. This may be important for patient care given the increased use of DBS for the treatment of tremor disorders. Therefore, 21 none-medicated patients with ET treated with DBS (13 bilateral, 8 unilateral) were examined with "Sniffin' Sticks," an established and reliable method for olfactory testing. Patients were studied either with DBS switched on and then off or in reversed order. DBS impaired odor threshold and, to a lesser extent, odor discrimination. These effects were sub-clinical as none of the patients reported changes in olfactory function. The findings, however, demonstrate that olfaction can be modulated in a circumscribed area of the posterior (sub-) thalamic region. We propose that the impairment of

### Cited by: 0

This article has been cited 0 times (from Web of Science).

### Related Records:

Find similar records based on shared references (from Web of Science).

[ [view related records](#) ]

### References: 72

View the bibliography of this record (from Web of Science).

### Additional information

- [View the journal's impact factor \(in Journal Citation Reports\)](#)

### Suggest a correction

If you would like to improve the quality of this product by suggesting corrections, [please fill out this form](#).

the odor threshold with DBS is related to effects on an olfactomotor loop, while disturbed odor discrimination may be related to effects of DBS on short-term memory. (C) 2009 Elsevier Inc. All rights reserved.

**Document Type:** Article

**Language:** English

**Author Keywords:** Olfacto-motor loop; Olfactory testing; Essential tremor; Memory

**KeyWords Plus:** ESSENTIAL TREMOR; THALAMIC-STIMULATION; VESTIBULOOCULAR REFLEX; OLFACTORY DYSFUNCTION; ODOR DISCRIMINATION; SUBTHALAMIC NUCLEUS; PARKINSONS-DISEASE; SINGLE NEURONS; BLOOD-FLOW; CEREBELLUM

**Reprint Address:** Kronenbuerger, M (reprint author), Rhein Westfal TH Aachen, Univ Hosp Aachen, Dept Neurol, Fac Med, Pauwelsstr 30, D-54074 Aachen, Germany

**Addresses:**

1. Rhein Westfal TH Aachen, Fac Med, Dept Neurol, D-52074 Aachen, Germany
2. Rhein Westfal TH Aachen, Fac Med, Dept Otorhinolaryngol, D-52074 Aachen, Germany
3. Rhein Westfal TH Aachen, Fac Med, Dept Psychiat & Psychotherapy, D-52074 Aachen, Germany
4. Rhein Westfal TH Aachen, Dept Neurosurg, Fac Med, D-52074 Aachen, Germany
5. Univ Bonn, Dept Neurosurg, Stereotaxy & MR Based OR Tech, D-53127 Bonn, Germany
6. Univ Heidelberg, Dept Neurol, Heidelberg Med Ctr, D-69120 Heidelberg, Germany
7. Univ Heidelberg, Dept Neurosurg, Heidelberg Med Ctr, D-69120 Heidelberg, Germany
8. Univ Med Ctr Schleswig Holstein, Dept Neurol, D-24105 Kiel, Germany
9. Univ Med Ctr Schleswig Holstein, Dept Neurosurg, D-24105 Kiel, Germany
10. Univ Dresden, Sch Med, Dept Otorhinolaryngol, Smell & Taste Clin, D-01307 Dresden, Germany

**Funding Acknowledgement:**

Funding Agency	Grant Number
Faculty of Medicine, RWTH Aachen University	
Centre National de la Recherche Scientifique	EAL 549

[\[Show funding text\]](#)

**Publisher:** ACADEMIC PRESS INC ELSEVIER SCIENCE, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495 USA

**Subject Category:** Neurosciences

**IDS Number:** 565PO

**ISSN:** 0014-4886

**DOI:** 10.1016/j.expneurol.2009.12.024

<< [Back to results list](#)

◀ Record 6 of 108 ▶

Record from **Web of Science®**

**Output Record**

**Step 1:**

- Authors, Title, Source
  - plus Abstract
- Full Record
  - plus Cited Reference

**Step 2:** [\[How do I export to bibliographic management software?\]](#)

[Print](#) [E-mail](#) [Add to Marked List](#) [Save to EndNote® Web](#)  
[Save to EndNote®, RefMan, ProCite](#)  
[Save to other Reference Software](#) [Save](#)

View in [简体中文](#) [English](#) [日本語](#)

Please give us your [feedback](#) on using ISI Web of Knowledge.

[Acceptable Use Policy](#)  
Copyright © 2010 Thomson Reuters

