

Expression and distribution of UV-DDB in the nerve cells and tissues

メタデータ	言語: jpn 出版者: 公開日: 2021-09-10 キーワード (Ja): キーワード (En): 作成者: Nakanishi, Isao メールアドレス: 所属:
URL	https://doi.org/10.24517/00063982

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 International License.



2000 Fiscal Year Final Research Report Summary

Expression and distribution of UV-DDB in the nerve cells and tissues

Research Project

Project/Area Number

11670209

Research Category

Grant-in-Aid for Scientific Research (C)

Allocation Type

Single-year Grants

Section

一般

Research Field

Experimental pathology

Research Institution

Kanazawa University

Principal Investigator

NAKANISHI Isao Faculty of Medicine Kanazawa University Professor, 医学部・医学科, 教授 (00019556)

Co-Investigator(Kenkyū-buntansha)

小田 恵夫 金沢大学, 医学部, 助教授 (70169316)

渡辺 琢夫 金沢大学, 医学部, 助教授 (40303268)

Project Period (FY)

1999 – 2000

Keywords

Alzheimer's disease / Amyloid precursor protein / Choline acetyltransferase / UV-DDB

Research Abstract

UV-damaged-DNA binding protein (UV-DDB) is an intracytoplasmic protein of heterodimer consisting of 127 kDa and 48 kDa, the former of which binds with the cytoplasmic domain of amyloid β protein precursor (APP). In this research project, we immunohistochemically investigated the expression and distribution of UV-DDB in the normal and diseased brains (3 Alzheimer's disease cases, 2 non-dementia autopsy cases) by using the specific polyclonal antibodies (Watanabe T.at al., J.Neurochem. 72, 2, 549-556, 1999). Specific antibodies against β -amyloid protein (β A), choline acetyltransferase (ChAT), tau, ubiquitin were also applied on the paraformaldehyde-fixed paraffin section of those cases. Expression of each protein was noted on normal nerve cells, degenerating nerve cells, neurofibrillary tangles, and senile plaques in the frontal lobes, cerebral basilar nuclei and hippocampus. ChAT immunohistochemistry was negative in Alzheimer's disease brain. β A and ubiquitin immunoreactivities were positive in the senile plaques. Particularly the degenerating nerve cells and their processes were immunoreactive with ubiquitin, suggesting the increase of

proteasome enzymatic activity. UV-DDB immunoreactivity was negative in the control brains, but Alzheimer's diseased brains were weakly positive for UV-DDB in degenerating nerve cells, particularly in areas of the diffuse type senile plaques and neurofibrillary tangles in the frontal lobes and hippocampus. Thus, UV-DDB which binds to AP sites of the protein during DNA damage may be expressed in the nuclei of particular degenerating nerve cells for reparative processes

Research Products (8 results)

All Other
All Publications

- [Publications] Isohara T, et al : "Phosphorylation of the cytoplasmic domain of Alzheimer's β -amyloid precursor protein at Ser 655 by a novel protein kinase." *Biochem.Biophys.Res.Comm.* 258 · 2. 300-305 (1999) ▼
- [Publications] Oda,Y.: "Choline acetyltransferase : the structure, distribution and pathologic changes in the central nervous system." *Pathol.Int.* 49 · 11. 921-937 (1999) ▼
- [Publications] Oda,Y.and Nakanishi,I.: "The distribution of cholinergic neurons in the human central nervous system." *Histol.Histopathol.* 15 · 3. 825-834 (2000) ▼
- [Publications] Muroishi,Y. et al : "Immunohistochemical and in situ hybridization studies neurons of choline acetyltransferase in large motor neurons of the human spinal cord." *Histol.Histopathol.* 15 · 3. 689-696 (2000) ▼
- [Publications] Isohara T, et al.: "Phosphorylation of the cytoplasmic domain of Alzheimer's β -amyloid precursor protein at Ser 655 by a novel protein kinase." *Biochem.Biophys.Res.Comm.* 258(2). 300-305 (1999) ▼
- [Publications] Yoshio Oda: "Choline acetyltransferase : the structure, distribution and pathologic changes in the central nervous system." *Pathol.Int.* 49(11). 921-937 (1999) ▼
- [Publications] Yoshio Oda and Isao Nakanishi: "Distribution of cholinergic neurons in the human central nervous system." *Histol.Histopathol.* 15(3). 825-834 (2000) ▼
- [Publications] Youko Muroishi, Satomi Kasashima, Isao Nakanishi and Yoshio Oda: "Immunohistochemical and in situ hybridization studies of choline acetyltransferase in large motor neurons of the human spinal cord." *Histol.Histopathol.* 15(3). 689-696 (2000) ▼

URL: https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-11670209/116702092000kenkyu_seika_hokoku

Published: 2002-03-25