

Department of Neuropathology

1. Staff and Students (April 2010)

Professor:	Hitoshi Okazawa	
Associate professor:	Yasushi Enokido	
Project Lecturer:	Kazuhiko Tagawa	
Adjunct Lecturer:	Masaki Sone	
Assistant Professor:	Takuya Tamura	
Project Assistant Professor:	Hikaru Ito	
Project Assistant Professor:	Akihiko Komuro	
Research Scientist:	Shigeki Marubuchi	
Technical Staff:	Tayoko Tajima,	Chie Inuma,
	Chiharu Mizoi	
Secretary:	Reiko Kikuchi,	Atsuko Isobe
Graduate Students:	Yoko Nakamura,	Min Xu,
	Chan Li,	Sainawer Maimaiti,
	Risa Shiraishi,	Yoshie Yuki,
	Zi-Hyang Chin,	Tomomi Imamura,
	Keisuke Kurosu	
Research Trainees:	Chaomaolige,	Hong Zhang

2. Purpose of Education

As educational tasks, we have lecture and experiment classes of neuropathology for medical/dental graduate school program and medical school program. We also have general pathology and neuropathology classes for graduate school for health sciences, and clinical anatomical and therapeutic pathology classes for research students. We also guide practical research techniques on neuropathology especially of neurodegenerative diseases.

3. Research Subjects

Following studies have been intensively carried out in our laboratory with various techniques including molecular biology, cell biology, biochemistry, Drosophila models, and mouse models.

- 1) Investigation of molecular pathologies and development of new seed drugs in neurodegenerative diseases.
- 2) Investigation of molecular pathologies and development of new seed drugs in PQBP1-related and other mental retardation.
- 3) Investigation of molecular mechanisms of stem cell differentiation.

4. Clinical Services

DNA sequence based diagnosis of PQBP1-related mental retardation.

Publications

Original Articles

1. Enokido Y, Tamura T, Ito H, Arumughan A, Komuro A, Shiwaku H, Sone M, Foulle R, Sawada H, Ishiguro H, Ono T, Murata M, Kanazawa I, Tomilin N, Tagawa K, Wanker EE, Okazawa H. Mutant huntingtin impairs Ku70-mediated DNA repair. *J Cell Biol* 2010; 189(3): 425-43.
2. Takahashi M, Mizuguchi M, Shinoda H, Aizawa T, Demura M, Okazawa H, Kawano K. Polyglutamine tract-binding protein-1 binds to U5-15kD via a continuous 23-residue segment of the C-terminal domain. *Biochim Biophys Acta* 2010; 1804(7): 1500-7.
3. Shiwaku H, Yoshimura N, Tamura T, Sone M, Ogishima S, Watase K, Tagawa K, Okazawa H. Suppression of the novel ER protein Maxer by mutant ataxin-1 in Bergman glia contributes to non-cell-autonomous toxicity. *Embo J* 2010; 29(14): 2446-60.
4. Honda S, Hayashi S, Imoto I, Toyama J, Okazawa H, Nakagawa E, Goto Y, Inazawa J. Copy-number variations on the X chromosome in Japanese patients with mental retardation detected by array-based comparative genomic hybridization analysis. *J Hum Genet* 2010; 55(9): 590-9.
5. Konno M, Hamazaki TS, Fukuda S, Tokuhara M, Uchiyama H, Okazawa H, Okochi H, Asashima M. Efficiently differentiating vascular endothelial cells from adipose tissue-derived mesenchymal stem cells in serum-free culture.

Biochem Biophys Res Commun 2010; 400(4): 461-5.

6. Tamura T, Horiuchi D, Chen YC, Sone M, Miyashita T, Saitoe M, Yoshimura N, Chiang AS, Okazawa H. Drosophila PQBP1 regulates learning acquisition at projection neurons in aversive olfactory conditioning. *J Neurosci* 2010; 30(42): 14091-101.
7. Aoki Y, Nakamura A, Yokota T, Saito T, Okazawa H, Nagata T, Takeda S. In-frame dystrophin following exon 51-skipping improves muscle pathology and function in the exon 52-deficient mdx mouse. *Mol Ther* 2010; 18(11): 1995-2005.