

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed on Form Page 2.  
Photocopy this page or follow this format for each person.

NAME Yasutada Akiba, M.D., Ph.D.		POSITION TITLE Research Scientist, Brentwood Biomed. Res. Inst., CURE/UCLA	
EDUCATION (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Keio University (Tokyo)	M.D.	1991	Gastroenterology
Keio University (Tokyo)	Ph.D.	2000	Gastroenterology

RESEARCH AND PROFESSIONAL EXPERIENCE: Concluding with present position, list, in chronological order, previous employment, experience, and honors. Include present membership on any Federal Government public advisory committee. List, in chronological order, the titles, all authors, and complete references to all publications during the past three years and to representative earlier publications pertinent to this application. If the list of pertinent publications in the last three years exceeds two pages, select the most pertinent publications. **DO NOT EXCEED TWO PAGES.**

**Positions Held**

- 1991-1992 *Resident Physician* Department of Internal Medicine, Keio University Hospital  
 1992-1996 *Trainee* Post-Graduate Course, Department of Internal Medicine (Gastroenterology), School of Medicine, Keio University  
 1996-1997 *Instructor* Department of Internal Medicine (Gastroenterology), School of Medicine, Keio University  
 1997-2000 *Visiting Associate Researcher*, UCLA School of Medicine. Los Angeles, CA USA  
 2000-2003 *Instructor*, Department of Internal Medicine (Gastroenterology), School of Medicine, Keio University, Tokyo, Japan  
 2003- *Research Scientist*, Brentwood Biomedical Research Institute. Los Angeles, CA USA

**Research Projects Ongoing or Completed During the Last 3 Years:**

- Grant-In-Aid for Scientific Research 2001-2002, Minister of Education and Science, Japan  
 No. 13670556, \$25,000  
 Roles of ion transports in gastrointestinal mucosal defense, and their clinical application  
 Grant for Pancreas Research 2002, Foundation for Pancreatic Disease Research, Japan  
 Basic research for efficacy of pancreatic afferent nerves on alcoholic chronic pancreatitis \$5,000  
 Grant for Pancreatic Disease Research 2002 & 2003, Pancreatic Disease Research Group, Minister of Health, Welfare and Labor, Japan  
 Roles of CCN family in chronic pancreatitis, \$5,000  
 Roles of Notch family in chronic pancreatitis, \$5,000

**Original Research Papers**

- Nakamura M, Oda M, Inoue J, Ito T, Kaneko H, **Akiba Y**, Tsuchiya M. Binding sites for calcitonin gene-related peptide in regenerating gastric mucosa. *J Clin Gastroenterol* 17: S46-S52, 1993.
- Nakamura M, Oda M, **Akiba Y**, Inoue J, Ito T, Morishita A, Tsuchiya M. Enteric nerves in gastric mucosa could be influenced by proton pump inhibitors through effect on H<sup>+</sup> ATP-ase. *Biomed Res* 15: 85-89, 1994.
- Yokomori H, Oda M, Kaneko H, Kazemoto S, Kamegaya Y, Tsukada N, Nakamura M, **Akiba Y**, Tsuchiya M. The different effects of tauroursodeoxycholate and taurine on bile canalicular contractions in primary cultures -a dynamic and electron microscopic study-. *Med Electron Microsc* 27: 37-39, 1994.
- Nakamura M, Oda M, **Akiba Y**, Inoue J, Ito T, Fujiwara T, Tsuchiya M, Ishii H. Uptake site of lansoprazole, a proton pump inhibitor, in human fundic mucosa. possible relevance with fibroblast and *Helicobacter pylori*. *Cell Mol Biol* 41: 125-131, 1995.

5. Nakamura M, Oda M, **Akiba Y**, Inoue J, Ito T, Tsuchiya M, Ishii H. Autoradiographic demonstration of lansoprazole uptake sites in rat antrum and colon. *J Clin Gastroenterol* 20: S8-S13, 1995.
6. Nakamura M, Oda M, Inoue J, Ito T, **Akiba Y**, Kitajima M, Tsuchiya M, Ishii H. Effect of basic fibroblast growth factor on reinnervation of gastric microvessels: possible relevance to ulcer recurrence. *Dig Dis Sci* 40: 1451-1458, 1995.
7. Nakamura M, Oda M, Inoue J, Ito T, **Akiba Y**, Kitajima M, Tsuchiya M, Ishii H. Plasticity of myofibroblasts appearing in granulation tissues after acetic acid treatment- effect of bFGF. *Dig Dis Sci* 40: 2477-2480, 1995.
8. Nakamura M, Oda M, Inoue J, Ito T, **Akiba Y**, Tsuchiya M, Ishii H. Increased immunoreactivity and concentration of basic fibroblast growth factor in lansoprazole-treated gastric mucosa. *J Clin Gastroenterol* 21: S24-S29, 1995.
9. Yokomori H, Oda M, Han J-Y, Ogi M, Kamegaya Y, Tsukada N, **Akiba Y**, Nakamura M, Motoori T, Ishii H. Endothelin-1 (ET-1) enhances bile canalicular contractions in cultured rat hepatocytes - A time lapse cinematographic and electron microscopic study -. *Med Electron Microsc* 29: 23-27, 1996.
10. Zeki S, Horie Y, Miura S, **Akiba Y**, Higuchi H, Hibi N, Oda M, Ishii H, Tsuchiya M, Shimazu M, et al. [A case study of nonfunctioning islet cell tumor in patient with splenic tumor and increased AFP]. *Nippon Shokakibyo Gakkai Zasshi. Japanese Journal of Gastroenterology* 93: 382-387, 1996.
11. Kimura H, Miura S, Shigematsu T, Ohkubo N, Tsuzuki Y, Kurose I, Higuchi H, **Akiba Y**, Hokari R, Hirokawa M, et al. Increased nitric oxide production and inducible nitric oxide synthase activity in colonic mucosa of patients with active ulcerative colitis and Crohn's disease. *Dig Dis Sci* 42: 1047-1054, 1997.
12. Tsuzuki Y, Miura S, Kurose I, Suematsu M, Higuchi H, Shigematsu T, Kimura H, Serizawa H, Hokari R, **Akiba Y**, Yagita H, Okumura K, Tso P, Granger DN, Ishii H. Enhanced lymphocyte interaction in postcapillary venules of Peyer's patches during fat absorption in rats. *Gastroenterology* 112: 813-825, 1997.
13. **Akiba Y**, Nakamura M, Oda M, Kimura H, Miura S, Tsuchiya M, Ishii H. Basic fibroblast growth factor increases constitutive nitric oxide synthase during healing of rat gastric ulcers. *J Clin Gastroenterol* 25: S122-S128, 1997.
14. Nakamura M, **Akiba Y**, Oda M, Ishii H. Alteration of basic fibroblast growth factor concentration and immunoreactivity in healing of ethanol-induced gastric mucosal damage. effect of sofalcone. *J Clin Gastroenterol* 25: S13-S20, 1997.
15. Kimura H, Hokari R, Miura S, Shigematsu T, Hirokawa M, **Akiba Y**, Kurose I, Higuchi H, Fujimori H, Tsuzuki Y, Serizawa H, Ishii H. Increased expression of an inducible isoform of nitric oxide synthase and the formation of peroxynitrite in colonic mucosa of patients with active ulcerative colitis. *Gut* 42: 180-187, 1998.
16. Nakamura M, **Akiba Y**, Oda M, Ishii H. Appearance of myofibroblasts in the gastric mucosa after ingestion of ethanol and lansoprazole with reevaluation of the mucoid cap. *Alcohol.Clin.Exp.Res*: 22: 115S-120S, 1998.
17. Tanaka S, **Akiba Y**, Kaunitz JD. Pentagastrin gastroprotection against acid is related to H<sub>2</sub> receptor activation but not acid secretion. *Gut* 43: 334-341, 1998.
18. **Akiba Y**, Nakamura M, Mori M, Suzuki H, Oda M, Kimura H, Miura S, Tsuchiya M, Ishii H. Inhibition of inducible nitric oxide synthase delays gastric ulcer healing in the rat. *J Clin Gastroenterol* 27: S64-S73, 1998.
19. Nakamura M, **Akiba Y**, Kishikawa H, Oda M, Ishii H. Effect of combined administration of lansoprazole and sofalcone on microvascular and connective tissue regeneration after ethanol-induced gastric mucosal damage. *J Clin Gastroenterol* 27: S170-S177, 1998.
20. Suzuki H, Miura S, Mori M, **Akiba Y**, Nagahashi S, Zweifach BW, Ishii H, Schmid-Schönbein GW. Protective role of adrenal glucocorticoids for gastric mucosa in spontaneously hypertensive rats. *J Gastroenterol Hepatol* 14: 376-383, 1999.
21. Suzuki H, Mori M, Seto K, Nagahashi S, Kawaguchi C, Kai A, **Akiba Y**, Suzuki M, Suematsu M, Miura S, Ishii H. Ethanol intake preceding *Helicobacter pylori* inoculation promotes gastric mucosal inflammation in Mongolian gerbils. *J Gastroenterol Hepatol* 14: 1062-1069, 1999.

22. **Akiba Y**, Kaunitz JD. Regulation of intracellular pH and mucosal blood flow in rat duodenal epithelium in vivo. *Am J Physiol* 276: G293-G302, 1999.
23. **Akiba Y**, Guth PH, Engel E, Nastaskin I, Kaunitz JD. Acid-sensing pathways of rat duodenum. *Am J Physiol* 277: G268-G274, 1999.
24. **Akiba Y**, Guth PH, Engel E, Nastaskin I, Kaunitz JD. Dynamic regulation of mucus gel thickness in rat duodenum. *Am J Physiol* 279: G437-G447, 2000.
25. Tomikawa M, **Akiba Y**, Kaunitz JD, Kawanaka H, Sugimachi K, Sarfeh IJ, Tarnawski AS. New insights into impairment of mucosal defense in portal hypertensive gastric mucosa. *J Gastrointest Surg* 4: 458-463, 2000.
26. **Akiba Y**, Furukawa O, Guth PH, Engel E, Nastaskin I, Kaunitz JD. Sensory pathways and cyclooxygenase regulate mucus gel thickness in rat duodenum. *Am J Physiol* 280: G470-G474, 2001.
27. Han JY, Miura S, **Akiba Y**, Higuchi H, Kato S, Suzuki H, Yokoyama H, Ishii H. Chronic ethanol consumption exacerbates microcirculatory damage in rat mesentery after reperfusion. *Am J Physiol* 280: G939-G948, 2001.
28. **Akiba Y**, Furukawa O, Guth PH, Engel E, Nastaskin I, Kaunitz JD. Acute adaptive cellular base uptake in rat duodenal epithelium. *Am J Physiol* 280: G1083-G1092, 2001.
29. **Akiba Y**, Furukawa O, Guth PH, Engel E, Nastaskin I, Sassani P, Pushkin A, Kurtz I, Kaunitz JD. Cellular bicarbonate protects rat duodenal mucosa from acid-induced injury. *J Clin Invest* 108: 1807-1816, 2001.
30. Atsukawa K, Saito H, Tsukada N, **Akiba Y**, Toda K, Kumagai N, Ohishi T, Kamegaya Y, Ishii H. Th1 and Th2 cytokines differentially regulate the transformation of Kupffer cells into multinucleated giant cells but similarly enhance the Kupffer cell-induced hepatic stellate cell proliferation. *Hepatol Res* 20: 193-206, 2001.
31. Nakamura M, Takahashi S, Matsui H, Nishikawa K, **Akiba Y**, Ishii H. Persistent increase in myofibroblasts in *Helicobacter heilmannii*-infected mice but not in *Helicobacter pylori*-infected Mongolian gerbils: colocalization of COX-2 and bFGF immunoreactivity. *Aliment Pharmacol Ther* 16 Suppl 2: 174-179, 2002.
32. **Akiba Y**, Watanabe C, Takada Y, Naito K, Aoki D, Mukai M, Kato S, Hibi T, Ishii H. A case of type 4 gastric cancer, diagnosed after operation for Krukenberg's tumor, treated by TS-1 plus low-dose cisplatin. *Gan To Kagaku Ryoho* 30: 277-281, 2003. (Japanese)
33. Uehara, K, Miura S, Takeuchi T, Taki T, Nakashita M, Adachi M, Inamura T, Ogawa T, **Akiba Y**, Suzuki H, Nagata H, Ishii H. Significant role of ceramide pathway in experimental gastric ulcer formation in rats. *J Pharmacol Exp Ther* 305: 232-239, 2003.
34. Nakamura M, **Akiba Y**, Matsui H, Tsuchimoto K, Ishii H. Rebamipide binds to iNOS-positive cells in acetic acid-treated but not in ethanol-treated rat gastric mucosa. *Aliment Pharmacol Ther* 18 Suppl 1:76-81, 2003.
35. Nakamura M, **Akiba Y**, Matsui H, Tsuchimoto K, Ishii H. Interaction of leptin with gastric myofibroblast transdifferentiation in *Helicobacter pylori*-infected Mongolian gerbils: the effect of rebamipide. *Aliment Pharmacol Ther* 18 Suppl 1:99-105, 2003.
36. Yoshimizu N, Saikawa Y, Kubota T, **Akiba Y**, Yoshida M, Otani Y, Kumai K, Hibi T, Kitajima M. Complete response of a highly advanced gastric carcinoma to preoperative chemoradiotherapy with S-1 and low-dose cisplatin. *Gastric Cancer* 6:185-190, 2003.
37. Takahashi T, Saikawa Y, Kubota T, **Akiba Y**, Shigematsu N, Yoshida M, Otani Y, Kumai K, Hibi T, Kitajima M. Histological complete response in a case of advanced gastric cancer treated by chemotherapy with S-1 plus low-dose cisplatin and radiation. *Jpn J Clin Oncol* 33:584-588, 2003.
38. **Akiba Y**, Yamagishi Y, Mori S, Ueda T, Suzuki J, Hosoe N, Izumiya M, Takaishi H, Nagata H, Hibi T, Ishii H. A case of recurrent pleural effusion and positive cytology of advanced gastric cancer treated by TS-1 plus weekly taxane as second-line chemotherapy. *Gan To Kagaku Ryoho* 31(3): 453-456, 2004. (Japanese)

39. **Akiba Y**, Kato S, Katsube K, Nakamura M, Takeuchi K, Ishii H, Hibi T. Transient receptor potential vanilloid subfamily 1 expressed in pancreatic islet  $\beta$  cells modulates insulin secretion in rats. *Biochem Biophys Res Commun* 321: 219-225, 2004.
40. Nakamura M, Takahashi T, Matsumoto T, **Akiba Y**, Matsui H, Tsuchimoto K, Ishii H, Yamada H. Expression of leptin in two-layered culture of gastric mucous cells and fibroblasts: effect of *Helicobacter pylori* attachment. *Aliment Pharmacol Ther* 20 Suppl 1: 125-130, 2004.
41. Hirokawa M, Takeuchi T, Chu S, **Akiba Y**, Wu V, Guth PH, Engel E, Montrose MH, Kaunitz JD. Cystic fibrosis gene mutation reduces epithelial cell acidification and injury in acid-perfused mouse duodenum. *Gastroenterology* 127: 1162-1173, 2004.
42. Furukawa O, Hirokawa M, Zhang L, Takeuchi T, Bi LC, Guth PH, Engel E, **Akiba Y**, Kaunitz JD. Mechanism of augmented duodenal  $\text{HCO}_3^-$  secretion after elevation of luminal  $\text{CO}_2$ . *Am J Physiol* 288: G557-G563, 2005.
43. Takahashi T, Otani Y, Yoshida M, Furukawa T, Kameyama K, **Akiba Y**, Saikawa Y, Kubota T, Kumai K, Kuramochi S, Mukai M, Ishii H, Kitajima M. Gastric cancer mimicking a submucosal tumor diagnosed by laparoscopic excision biopsy. *J Laparoendosc Adv Surg Tech A* 15: 51-56, 2005.
44. Kawakubo K, **Akiba Y**, Adelson D, Guth PH, Engel E, Taché Y, Kaunitz JD. Role of gastric mast cells in the regulation of central TRH analog-induced hyperemia in rats. *Peptides* 26: 1580-1589, 2005.
45. **Akiba Y**, Jung M, Ouk S, Kaunitz JD. A novel small molecule CFTR inhibitor attenuates  $\text{HCO}_3^-$  secretion and duodenal ulcer formation in rats. *Am J Physiol* 289: G753-G759, 2005.
46. Yamagishi Y, **Akiba Y**, Izumiya M, Higuchi H, Iizuka H, Takaishi H, Nagata H, Hibi T. A case of advanced gastric cancer with lymphangitis carcinomatosa after operation of Krukenberg tumor treated by TS-1 plus CPT-11 as third-line chemotherapy. *Gan To Kagaku Ryoho* 32: 1167-1170, 2005. (Japanese).

***Book chapters (selected)***

1. Kaunitz JD, **Akiba Y**. Duodenal intracellular bicarbonate and 'CF paradox'. *J Pancreas* 2: 268-273, 2001.
2. Kaunitz JD, **Akiba Y**. Integrated duodenal protective response to acid. *Life Science* 69: 3073-3081, 2001.
3. Kaunitz JD, **Akiba Y**. Luminal acid elicits a protective duodenal mucosal response. *Keio J Med* 51: 29-35, 2002.
4. **Akiba Y**, Nakamura M, Nagata H, Kaunitz JD, Ishii H. Acid-sensing pathways in rat gastrointestinal tract. *J Gastroenterol* 37 suppl 14: 133-138, 2002.
5. Kaunitz JD, **Akiba Y**. Acid-sensing protective mechanisms of duodenum. *J Physiol Pharmacol* 54 Suppl 4: 19-26, 2003.
6. Kaunitz JD, **Akiba Y**. Gastroduodenal mucosal defense: role of endogenous mediators. *Curr Opin Gastroenterol* 20: 526-532, 2004.