

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format on for each person. (See attached sample). **DO NOT EXCEED FOUR PAGES.**

NAME		POSITION TITLE	
Catia Sternini, M.D.		Professor	
EDUCATION/TRAINING (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
University of Bologna, Bologna, Italy	M.D.	1976	Surgery & Medicine
University of Bologna, Bologna, Italy	Specialty	1982	Internal Medicine

A. Positions and Honors.**Positions and Employment**

1976 – 1983	Research Assistant and Resident in Internal Medicine, Univ. of Bologna, Italy
1983 – 1984	Visiting Scientist, CURE Digestive Disease Research Center, UCLA School of Medicine
1984 – 1985	Research Scientist, Department of Medicine, UCLA School of Medicine
1985 – 1990	Assistant Professor, Department of Medicine, UCLA School of Medicine
1987 – Present	Member, CURE Digestive Diseases Research Center, UCLA School of Medicine
1989 – Present	Member, Brain Research Institute, UCLA School of Medicine
1990 – 1996	Associate Professor, Department of Medicine, UCLA School of Medicine
1996 – Present	Professor, Departments of Medicine and Neurobiology, UCLA School of Medicine
2001 – 2003	Deputy Director for Administration, CURE Digestive Diseases Research Center, UCLA

Other Experience and Professional Memberships

1993	Ad Hoc Reviewer NSF: Neuroendocrinology Program
1994	Ad Hoc Reviewer: Merit Reviews, Gastroenterology, Veterans Affairs
1994	Ad Hoc Reviewer: New York Academy of Science
1997	Ad Hoc Reviewer NSF: Neuronal and Glial Mechanisms
1999	Ad Hoc Reviewer: VA Merit Reviews, Drug Dependence & Gastroenterology
2000	Ad Hoc Reviewer: NIH, DDDK, General Med 2 study session
2000	National Health Medical Research Council, Australia
2000 – Present	Reviewer: Basic Research Grant, Ministero Universita' e Ricerca Scientifica, Italy

Honors

1983	NATO-CNR Fellowship
1986	Smith Kline and Beckman
1998	NATO International Scientist Exchange Program, Collaborator Research Award
2003	Janssen Award for Basic Research in Digestive Science

B. Selected peer-reviewed publications (in chronological order).

1. **Sternini C**, Anderson K, Frantz G, Krause JE, Brecha N. Expression of substance P/neurokinin A-encoding preprotachykinin messenger ribonucleic acids in the rat enteric nervous system. *Gastroenterology* 1989;97:348-356.
2. Furness JB, Lloyd KCK, **Sternini C**, Walsh JH. Projections of substance P, vasoactive intestinal peptide and tyrosine hydroxylase immunoreactive nerve fibers in the canine intestine, with special reference to the innervation of the circular muscle. *Archives of Histology and Cytology* 1990;53:129-140.
3. Furness JB, Lloyd KCK, **Sternini C**, Walsh JH. Evidence that myenteric neurons of the gastric corpus project to both the mucosa and the external muscle: Myectomy operations on the canine stomach. *Cell Tissue Res* 1991;266:475-481.
4. **Sternini C**, De Giorgio R, Furness JB. Calcitonin gene-related peptide neurons innervating the canine digestive system. *Regulatory Peptides* 1992;42:15-26.
5. De Giorgio R, Parodi J, Brecha NC, Brunnicardi FC, Becker JM, Go VLW, **Sternini C**. Nitric oxide producing neurons in the monkey and human digestive system. *Journal Comparative Neurology* 1994;342:619-627.

6. Slice LW, Wong HC, **Sternini C**, Grady E, Bunnett N, Walsh JH. Tyrosine(324) is not required for ligand induced internalization of gastrin releasing peptide receptor. *Journal of Biological Chemistry* 1994;269:21755-21762.
7. De Giorgio R, Zittel TT, Parodi JE, Becker JM, Brunicardi FC, Go VLW, Brecha NC, **Sternini C**. Peptide-containing neurons and fibers innervating the human gallbladder. *Journal of the Autonomic Nervous System* 1995;51:37-47.
8. **Sternini C**, Su D, Gamp PD, Bunnett NW. Cellular sites of expression of the neurokinin-1 receptor in the rat gastrointestinal tract. *Journal of Comparative Neurology* 1995;358:531-540.
9. Peter D, Liu Y, **Sternini C**, De Giorgio R, Brecha N, Edwards RH. Differential expression of two vesicular monoamine transporters. *Journal of Neuroscience* 1995;15:6179-6188.
10. **Sternini C**, Spann M, De Giorgio R, Anton B, Keith D Jr, Evans C, Brecha NC. Cellular localization of the mu receptor in the rat enteric nervous system. *Analgesia* 1995;1:762-765.
11. **Sternini C**, Su D, Arakawa J, De Giorgio R, Rickman D, Davis B, Albers K, Brecha NC. Cellular localization of pan-trk immunoreactivity and trk_C mRNA in the enteric nervous system. *J Comp Neurol* 1996;368:597-607.
12. Goehler LE, **Sternini C**. Calcitonin gene-related peptide innervation of the rat hepatobiliary system. *Peptides* 1996;17:209-217.
13. **Sternini C**, Spann M, Anton B, Keith DE Jr, Bunnett NW, Von Zastrow M, Evans C, Brecha NC. Agonist selective endocytosis of mu opioid receptor by neurons in vivo. *Proc Natl Acad Sci USA* 1996;93:9241-9246.
14. De Giorgio R, Su D, Peter D, Edwards RH, Brecha NC, **Sternini C**. Vesicular monoamine transporter 2 expression in enteric neurons and enterochromaffin-like cells of the rat. *Neurosci Lett* 1996;217:77-80.
15. **Sternini C**, Wong H, Wu SV, De Giorgio R, Yang M, Reeve J Jr, Brecha NC, Walsh JH. Somatostatin 2A receptor is expressed by enteric neurons, and by interstitial cells of Cajal and enterochromaffin-like cells of the gastrointestinal tract. *Journal of Comparative Neurology* 1997;386:396-408.
16. Bolden DA, **Sternini C**, Kruger L. GAP-43 mRNA and calcitonin gene-related peptide mRNA expression in sensory neurons are increased following sympathectomy. *Brain Research Bulletin* 1997;42:39-50.
17. Goode T, O'Connell J, **Sternini C**, Anton P, Wong H, O'Sullivan GC, Collins JK, Shanahan F. Substance P (neurokinin-1) receptor is a marker of human mucosal but not peripheral mononuclear cells: molecular quantitation and localization. *Journal of Immunology* 1998;161:2232-2240.
18. Tonini M, Fiori E, Balestra B, Spelta V, D'Agostino G, DiNucci A, Brecha NC, **Sternini C**. Endomorphin-1 and endomorphin-2 activate μ -opioid receptors in myenteric neurons of the guinea-pig small intestine. *Naunyn-Schmiedeberg's Archives of Pharmacology* 1998;358:686-689.
19. McConalogue K, Grady EF, Minnis J, Balestra B, Tonini M, Brecha NC, Bunnett NW, **Sternini C**. Activation and internalization of the m opioid receptor by the newly discovered endogenous agonists, endomorphin-1 and -2. *Neuroscience* 1999;90:1051-1059.
20. Lecci A, De Giorgio R, Bartho' L, **Sternini C**, Tramontana M, Corinaldesi R, Giuliani S, Maggi CA. Tachykinin NK1 receptor-mediated inhibitory responses in the guinea pig small intestine. *Neuropeptides* 1999;33:91-97.
21. **Sternini C**, Wong H, Pham T, De Giorgio R, Miller LJ, Kuntz SM, Reeve JR, Jr., Walsh JH, Raybould HE. Expression of CCK-A receptors in neurons innervating the rat stomach and intestine. *Gastroenterology* 1999;117:1136-1146.
22. **Sternini C**, Brecha NC, Minnis J, D'Agostino G, Balestra B, Fiori E, Tonini M. Role of agonist-dependent receptor internalization in the regulation of μ opioid receptors. *Neuroscience* 2000;98:233-241.
23. De Giorgio R, Arakawa J, Wetmore C, **Sternini C**. Neurotrophin-3 and neurotrophin receptor immunoreactivity in peptidergic enteric neurons. *Peptides* 2000;21:1421-1426.
24. Melone M, Brecha NC, **Sternini C**, Evans C, Conti F. Etorphine increases the number of μ -opioid receptor-positive cells in the cerebral cortex. *Neuroscience* 2000;100:439-443.
25. Tonini M, Spelta V, De Ponti F, De Giorgio R, D'Agostino G, Stanghellini V, Corinaldesi R, **Sternini C**, Crema F. Tachykinin-dependent and -independent components of peristalsis in the guinea pig isolated distal colon. *Gastroenterology* 2001;120:938-945.
26. Schmidlin F, Dery O, DeFea KO, Slice L, Patierno S, **Sternini C**, Grady EF, Bunnett NW. Dynamins and Rab5a dependent trafficking and signaling of the neurokinin 1 receptor. *J Biol Chem* 2001;276:25427-25437.
27. Zhukova E, Afshar A, Ko J, Popper P, Pham T, **Sternini C**, Walsh JH. Expression of the human insulin gene in the gastric G cells of transgenic mice. *Transgenic Res* 2001;10:329-341.
28. Glatzle J, **Sternini C**, Robin C, Zittel TT, Wong H, Reeve JR Jr, Raybould HE. Expression of 5-HT₃ receptors in the rat gastrointestinal tract. *Gastroenterology* 2002;123:217-226.
29. Pham T, Guerrini S, Wong HE, Reeve JR Jr, **Sternini C**. Distribution of galanin receptor 1 immunoreactivity in the rat stomach and small intestine. *Journal of Comparative Neurology* 2002;450:292-302.

Principal Investigator/Program Director (Last, First, Middle):

30. Raybould HE, Glatzle J, Meyer JH, Phan T, Wong H, **Sternini C**. Expression of 5-HT₃ receptors by extrinsic primary gastric and duodenal afferents contribute to intestinal inhibition of gastric emptying. *American Journal of Physiology Gastrointestinal Liver Physiology* 2003;284:G367-G372.
31. Ho A, Lievore A, Patierno S, Kohlmeier S, Tonini M, **Sternini C**. Neurochemically distinct classes of myenteric neurons express the μ -opioid receptor in the guinea pig ileum. *Journal of Comparative Neurology*, 2003;458:404-411.
32. Minnis JG, Patierno S, Kohlmeier SE, Brecha NC, Tonini M, **Sternini C**. Ligand-induced μ opioid receptor endocytosis and recycling in enteric neurons. *Neuroscience* 2003. (In Press)

Selected chapters and reviews:

33. **Sternini C**. Structural organization of the myenteric plexus. *Annual Review of Physiology* 1988;50:81-93.
34. De Giorgio R, Stanghellini V, Barbara G, Corinaldesi R, De Ponti F, Tonini M, Bassotti G, **Sternini C**. Primary enteric neuropathies underlying gastrointestinal motor dysfunction. *Scand J Gastroenterol* 2000;2:114-122.
35. **Sternini C**. Receptors and Transmission in the Brain-Gut Axis: Potential for Novel Therapies. III. μ opioid receptors in the enteric nervous system. *Am J Physiol Gastrointest Liver Physiol* 2001;281:G8-G15.
36. **Sternini C**, Brecha NC. μ opioid receptor expression and endocytosis in enteric neurons. In: Tache Y (Ed.), *Gut-Brain Peptides in the New Millennium, A Tribute to John Walsh by his Collaborators*, 2002, pp.265-274.

C. Research Support

Ongoing Research Support

R01 DK54155 Sternini (PI)

8/05/02 – 6/30/06

NIH/NIDDK

μ opioid receptor function in the enteric nervous system

The long-term goal of this proposal is to test the hypothesis that μ opioid receptor endocytosis, intracellular sorting and recycling contribute to the regulation of the responsiveness of enteric neurons to endogenous opioids and alkaloids.

Role: PI

R01 DK57037 Sternini (PI)

8/01/00 – 8/31/05

NIH/NIDDK

Role of galanin receptors in gastrointestinal motility

The long term goal of this proposal is to examine the hypothesis that distinct subtypes of galanin receptors expressed by enteric neurons mediate the inhibitory and excitatory effects of galanin on gastrointestinal motility by transmitter release from enteric neurons.

Role: PI

P50 DA05010 Evans (PI)

11/01/02 – 5/31/07

NIDA “Center for Study of Opioid Receptors and Drugs of Abuse”

Pilot Study μ opioid receptor trafficking in neurons

The goal of this pilot study is to investigate whether chronic activation of native μ opioid receptors alters receptor trafficking by affecting intracellular proteins regulating receptor endocytosis and recycling.

Role: PI

P50 DK41301 Rozengurt (PI)

12/01/99 – 11/30/04

NIH/NIDDK “CURE Digestive Diseases Research Center”

Morphology/Imaging Core. Dr. Sternini is the Director of the Morphology/Imaging Core.

The major goal of the core is to provide expertise and assistance to other investigators for the performance of immunohistochemistry, axonal transport, image acquisition and analysis.

Role: Core Director

P50 DK41301 Rozengurt (PI)

12/1/99 – 11/30/04

NIH/NIDDK

Administrative Core

The goal of the core is to provide administrative support to CURE members.

Role: Deputy Director for Administration

Principal Investigator/Program Director (Last, First, Middle):

Completed Research Support

RO1 DK35740 Sternini (PI)

8/31/00 – 7/31/03

NIH/NIDDK

Gastric Neuropeptidases/Peptide Receptor Interactions

The major goal of these studies is to examine the hypotheses that receptor-mediated endocytosis limit cellular responsiveness to GRP by receptor endocytosis and intracellular lysosomal degradation, and that pH sensitive endosomal dissociation of ligand regulates receptor recycling and resensitization.

Role: PI