

BIOGRAPHICAL SKETCH

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NAME Maria Dolors Sans Gili	POSITION TITLE Research Assistant Professor
eRA COMMONS USER NAME mdsansg	

a) Education

INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
U. Barcelona (Barcelona, Spain)	Licentiate	1992	Biological Sciences
U. Barcelona (Barcelona, Spain)	Ph.D.	1999	Pancreas Physiology/ Pathophysiology
U. Michigan (Ann Arbor, MI)	Post-doc	1999-2004	Pancreas Physiology/ Pathophysiology

A. Positions and Honors

Positions and Employment

1992-1993 Research Assistant, Research Institute, Hospital de la Sta. Creu & Sant Pau, Barcelona, Spain
 1993-1996 Pre-doctoral Fellow, Research Institute, Hospital de la Sta. Creu & Sant Pau, Barcelona, Spain
 1996-1998 Research Fellow, Catalan Foundation of Gastroenterology, Barcelona, Spain
 1999-2004 Post-doctoral Fellow, Department of Physiology, University of Michigan, Ann Arbor, MI
 2004-2007 Research Investigator, Department of Physiology, University of Michigan, Ann Arbor, MI
 2007- Research Assistant Professor, Department of Physiology, University of Michigan, Ann Arbor, MI

Other Experience and Professional Memberships

1992-present Member of the "Societat Catalana de Biologia" (SCB); affiliated at the "Institut d'Estudis Catalans" (IEC), Barcelona, Spain
 1992-present Collegiate Biologist from the Spanish Official College of Biologists (COB)
 2001-present Member of the American Gastroenterological Association (AGA)
 2001-present Trainee member of the Gastroenterological Research Group (GRG)
 2001-present Member of the American Pancreatic Association (APA)
 2004-present Member of the American Physiological Society (APS)

Honors

1999 PhD thesis honored with a *Magna cum Laude*, by unanimity; Title: "Paper del citosquelet de la cèl·lular acinar pancreàtica a la secreció pancreàtica exocrina i a la pancreatitis aguda" (Role of the pancreatic acinar cell cytoskeleton in pancreatic exocrine secretion and in acute pancreatitis). Department of Cell Biology, University of Barcelona, Barcelona, Spain.

2002 Gastroenterology Research Group/ American Gastroenterological Association (GRG/AGA) Fellow Travel Award to present the work entitled: "Caerulein-induced acute pancreatitis inhibits protein synthesis in mouse pancreas by inhibition of eIF2B activity" at the Digestive Disease Week (DDW) meeting in San Francisco, CA.

- 2003 Gastroenterology Research Group/ American Gastroenterological Association (GRG/AGA) Fellow Travel Award to present the work entitled: "Feeding activates protein synthesis in mouse pancreas at the translational level without changes in mRNA" at the Digestive Disease Week (DDW) meeting in Orlando, FL.
- 2007 American Gastroenterological Association (AGA)/Foundation for Digestive Health and Nutrition (FDHN) finalist for the Research Scholar Award in Research related to Pancreatitis. "Role of ER stress in acute pancreatitis".

B. PUBLICATIONS:

1. Guillaumes, S., Blanco, I., Villanueva, A., **Sans, M.D.**, Clavé, P., Chabás, A., Farré, A., and Lluís, F. (1996). Actividad y distribución subcelular de enzimas lisosomales en la pancreatitis aguda inducida por dieta CDE en el ratón. *Gastroenterología y Hepatología*. 19 (3):146-52.
2. Guillaumes, S., Blanco, I., **Sans, M.D.**, Clavé, P., Farré, A., and Lluís, F. (1996). Fisiopatología de la pancreatitis aguda. *Gastroenterología y Hepatología*. 19 (4):224-30.
3. Guillaumes, S., Blanco, I., Villanueva, A., **Sans, M.D.**, Clavé, P., Chabás, A., Farré, A., and Lluís, F. (1997). Chloroquine stabilizes pancreatic lysosomes and improves survival with diet-induced acute pancreatitis. *Pancreas* 14 (3):262-266.
4. **Sans, M.D.**, Kimball, S.R., and Williams, J.A. (2002). Effect of CCK and intracellular calcium to regulate eIF2B and protein synthesis in rat pancreatic acinar cells. *Am J Physiol Gastrointest Liver Physiol* 282(2):G267-76.
5. Williams, J.A, **Sans, M.D.**, Tashiro, M., Schafer, C., Bragado, M.J., and Dabrowski, A. (2002) Cholecystokinin activates a variety of intracellular signal transduction mechanisms in rodent pancreatic acinar cells. *Pharmacology & Toxicology*. 91(6):297-303.
6. **Sans, M.D.** and Williams, J.A. (2002). Translational control of protein synthesis in pancreatic acinar cells. *Int J Gastrointest Cancer* 31(1-3):107-15. (Invited Review)
7. **Sans, M.D.**, DiMagno, M.J., D'Alecy, L.G., Williams, J.A. (2003). Caerulein-induced acute pancreatitis inhibits protein synthesis in mouse pancreas through effects on eukaryotic initiation factors 2B and 4F. *Am J Physiol Gastrointest Liver Physiol* 285(3):G517-28.
8. **Sans, M.D.** and Williams, J.A. (2004). Calcineurin is required for translational control of protein synthesis in rat pancreatic acini. *Am J Physiol Cell Physiol*. 287:C310-C319, 2004.
9. **Sans, M.D.**, Lee, S-H., D'Alecy, L.G., and Williams, J.A. (2004). Feeding activates protein synthesis in mouse pancreas at the translational level without increase in mRNA. *Am J Physiol-Gastrointest Liver Physiol* 287(3):G667-G675.
10. **Sans, M.D.**, Xie, Q., and Williams, J.A. (2004). Regulation of translation elongation and phosphorylation of eEF2 in rat pancreatic acini. *Biochem Biophys Research Comm* 319:144-151.
11. Tashiro, M., Dabrowski, A., Guo L.L., **Sans, M.D.**, and Williams, J.A. (2006). Calcineurin dependent and Independent signal transduction pathways activated as part of pancreatic growth. *Pancreas* 32(3):314-20.
12. Kubisch, C.H., **Sans, M.D.**, Ernst, S.A., Williams J.A., Logsdon, C.D. (2006). Early activation of endoplasmic reticulum stress is associated with arginine induced acute pancreatitis. *Am J Physiol-Gastrointest Liver Physiol*. 291:G238-G245.
13. Crozier, S.J., **Sans, M.D.**, Guo, L.L., D'Alecy, L.G., and Williams, J.A. (2006). Activation of the mTOR signaling pathway is required for pancreatic growth in protease inhibitor-fed mice. *J Physiol*. 573:775-786.
14. **Sans, M.D.**, Tashiro, M., Vogel, N.L., Kimball, S.R., D'Alecy, L.G., and Williams, J.A. (2006). Leucine stimulates pancreatic translational machinery in rats and mice through mTOR independent of CCK and insulin. *J Nutr* 136:1792-99.
15. Guo, L.L., **Sans, M.D.**, Gurda, G., Lee, S-H., Ernst, S.J., and Williams, J.A. (2007) Induction of early response genes in trypsin inhibitor-induced pancreatic growth. *Am J Physiol-Gastrointest Liver Physiol* 292:G667-G677.

16. Crozier, S.J., **Sans, M.D.**, Lang, C.H., D'Alecy, L.G., Ernst, S.A. and Williams, J.A. (2008) CCK-induced pancreatic growth is not limited by mitogenic capacity in mice. *Am J Physiol Gastrointest Liver Physiol.* 294:G1148-G1157.
17. Yang, H., Lee, C.J., Zhang, L., **Sans, M.D.**, and Simeone, D.M. (2008) Regulation of Transforming Growth Factor β -Induced Responses by Protein Kinase A in Pancreatic Acinar Cells. *Am J Physiol Gastrointest Liver Physiol.* 295:G170-G178. PMID: PMC24947181.

Submitted manuscripts:

Chen, X., **Sans, M.D.**, Strahler, J.R., Karnovsky, A., Ernst, S.J., Michailidis, G., Andrews, P.C., and Williams, J.A. Organellar proteomics analysis of rough endoplasmic reticulum (RER) from normal and acute pancreatitis rat pancreas. (Submitted to Journal of Proteome Research).

Manuscripts in preparation:

Sans, M.D., Ernst, S.A., Williams, J.A., and Vogel, N.L. ER stress and the development of acute pancreatitis.

Sans, M.D., Crozier, S.J., Vogel, N.L., D'Alecy, L.G., and Williams, J.A. Protein and branched-chain amino acids regulate pancreatic digestive enzyme synthesis.

Guo, L., **Sans, M.D.**, Gurda, G.T., Ernst, S.A., and Williams, J.A. The role of C-jun/AP-1 in cholecystokinin (CCK)-induced pancreatic acinar cell growth in vitro.

Chapters in books.

Sans, M.D., Crozier, S.J. and Williams, J.A. Regulation of pancreatic protein synthesis and growth. Chapter 11. In: *The Pancreas: A Clinical and Surgical Text*, 2nd Ed., H Beger, Editor, Oxford, Blackwell. 2008.

C. RESEARCH PROJECTS

Active:

National Pancreas Foundation Grant (M.D. Sans, PI) 6/01/09-5/31/10

Title: Role of pancreatic digestive enzyme synthesis during the development of Acute Pancreatitis.

Goal: The main focus of this work is to demonstrate that the translation of mRNAs for digestive enzymes is primarily inhibited during acute pancreatitis, compared to other non-secretory proteins, to maintain cell viability; and that eIF2 α phosphorylation is key in the inhibition of digestive enzyme synthesis.

Role: Principal Investigator

NIH-R01 DK 59578 (J.A. Williams, PI) 12/01/08-11/30/13

Title: Dietary regulation of pancreatic digestive enzymes

Goal: The overall goal is to understand the regulation by GI hormones and dietary constituents of pancreatic growth in order to ensure an adequate supply of digestive enzymes.

Role: Investigator

Past:

NIH-5 P30 DK34933 (C. Owyang, P.I.)
Michigan Gastrointestinal Peptide Research Center Pilot Feasibility Project 9/01/08-8/31/09

Title: Neurohormonal Regulation of Pancreatic Digestive Enzyme Synthesis

Role: Principal Investigator of the Pilot Feasibility Project

NIH-P60 DK 20572 (W. Herman, P.I.)
2008 Michigan Diabetes Research and Training Center (MDRTC), Pilot Feasibility Grant 12/01/07-02/28/09

Title: Insulin, Diabetes and the Regulation of Pancreatic Digestive Enzyme Synthesis

NIH-R01 DK 59578 (J.A. Williams, PI)

07/01/02-4/30/07

Title: Dietary regulation of pancreatic digestive enzymes

Role: Research Investigator

NIH-P30 DK 34933 (C. OWYANG, PI)

09/01/06-08/31/07

Michigan Gastrointestinal Peptide Research Center Pilot Feasibility Project

Title: ER stress and acute pancreatitis

Role: Principal Investigator of Pilot Feasibility Project.

UM Center for Computational Medicine and Biology (CCMB) Pilot Research Grant

11/01/06-06/30/08

Title: Proteomic Analysis of the Endoplasmic Reticulum in Pancreas (JA Williams, PI)

Role: Investigator