

<b>CURRICULUM VITAE INVESTIGATOR</b>			
<b>PERSONAL DATA</b>			
Father's name <b>Israel</b>		Name <b>Yedy</b>	
Birth date September 19, 1939	Age (at 15/07/2011) 71	Gender (M o F) M	Nationality(ies) Chilean
Title Biochemistry		Academic Degree Ph.D. Biochemistry	
Current position  Full Professor	Institution (Department, Faculty, Institution)  University of Chile, Faculty of Chemical and Pharmaceutical Sciences		
Electronic address yisrael@uchile.cl	Telephone (w/codes) 56 2 9782943	Web Site	
<b>EDUCATION, ACADEMIC AND PROFESSIONAL EXPERIENCE</b>			
Universidad de Chile, Chile	B.Sc.	1962	Biochemistry
University of Toronto, Canada	Ph.D.	1965	Biochemistry
National Institutes of Health, USA			
Fogarty International Fellow		1966	Molec. Pharmacol.
<b>RESEARCH AND/OR PROFESSIONAL EXPERIENCE</b>			
<b>ACADEMIC EMPLOYMENT</b>			
1970-1974	Associate Professor of Pharmacology, University of Toronto		
1974-1994	Professor of Pharmacology, Faculty of Medicine, University of Toronto		
1978-1994	Professor of Medicine, University of Toronto		
1978-1981	Director, Clinical Research Institute, Addiction Research Foundation, Canada		
1982-1985	Chairman, Nervous System Teaching, University of Toronto Faculty of Medicine,		
1994-1997	Professor of Pathology and Cell Biology, Thomas Jefferson University		
1997-Present	Adjunct Professor of Pathology and Cell Biology, Thomas Jefferson University		
1997-Present	Professor of Pharmacology, University of Chile.		
<b>Ph.D. Students.</b>			
Currently one Ph.D student; two students pending funding. Benjamin Erranz (gene delivery, stem cell)			
<b>HONORS AND AWARDS and EDITORIAL POSITIONS.</b>			
2006	Thurman Award, Univ. North Carolina, USA		
2003	Eraddictions Award. International Society for Addiction Medicine		
2001	Member (Corresponding) Academy of Sciences of Chile		
1999-2001	President U.S. Research Society on Alcoholism		
1998-2000	Presidential Chair in Science Award (Chile)		
1995	Merit Award, National Institutes of Health (USA)		

1990 Innovations Award, Government of Canada  
1990 Distinguished Research Award, U.S. Research Society on Alcoholism  
1980 Jellinek International Award, The Jellinek International Foundation  
1979 Pharmacological Society of Canada Award  
1965 Reeve Award, University of Toronto

**Editorial Boards.**

1974-1993 Executive Editor, Research Advances on Alcohol and Drug Problems;  
1989-1998 Associate Editor, Alcoholism: Clin. Exp. Res.;  
1990 and 1993 Editorial Board: Alcohol and Health for U.S. Congress 3;  
1986- 2010 Editorial Board J. Studies on Alcohol;  
1989- present Editorial Board Alcohol;  
1998- present Editorial Board Frontiers in BioSciences  
2004-2011 Editorial Board Alcoholism: Clinical and Experimental Research  
2011- present Field Editor: Alcoholism: Clinical and Experimental Research

**MAIN PUBLICATIONS IN MEDIA WITH EDITORIAL COMMITTEE**

192 publications with Editorial Committee  
35 Book chapters  
12 Book edited

Tu G-C, Cao Q-N and Israel Y. (1995) inhibition of gene expression by triple helix formation in hepatoma cells. *J. Biol. Chem.* **270**: 28402-28407.

Tu G-C, Cao Q-N, Zhou F and Israel Y. (1998) Tetranucleotide ggga motif in primary transcripts: novel target site for antisense design, *J. Biol. Chem.* **273**: 25125-15131.

Anni H and Israel Y. (1999) Characterization of adducts of ethanol metabolites with cytochrome c *Alcoholism: Clin. Exp Res.* **23**: 26-37.

Tu GC, Cao QN, Zhou F and Israel Y. (1999) Inhibition of tumor necrosis alpha synthesis *Emerging Therapeutic Targets* **2**: 23-25.

Moncada C and Israel Y. (1999) Generation of acetate and production of ethyl lysine in the reaction of acetaldehyde plus albumin. *Alcohol* **17**: 87-91.

Garver E, Ross AD, Tu G-C, Cao Q-N, Zhou F and Israel Y. (2000) Paradigm to test a drug-induced aversion to ethanol. *Alcohol and Alcoholism* **35**: 435-438.

Viitala K, Makkonen K, Israel Y, Lehtimaki T, Jaakkola O, Koivula T, Blake JE, Niemela O. (2000) Autoimmune responses against oxidant stress and acetaldehyde-derived epitopes in human alcohol consumers *Alcoholism: Clin. Exp. Res.* **24**: 1103-9.

Anni H, Nikolaeva O and Israel Y. (2001) Selection of phage-display library peptides recognizing ethanol targets on proteins. *Alcohol* **25**: 201-209.

Le AD, Israel Y, Juzytsch W, Quan B and Harding S. (2001) Genetic selection for voluntary alcohol consumption of high (HARF) and low (LARF) lines in a limited access paradigm. *Alcoholism: Clin. Exp. Res.* **25**: 1613-1620.

Ponnappa BC, Dey I, Tu GC, Zhou F, Aini M, Cao QN and Israel Y. (2001) In vivo delivery of antisense oligonucleotides in pH sensitive liposomes inhibit lipopolysaccharide-induced production of tumor necrosis factor alpha in rats *J. Pharmacol. Exp. Ther.* **297**: 1129-1135.

Moncada C. and Israel Y. (2001) Protein binding of  $\alpha$ -hydroxyethyl free radicals. *Alcoholism: Clin. Exp. Res.* **25**: 1723-1728.

\*\*\*Garver E, Tu GC, Cao QN, Aini M, Zhou F, and Israel Y. (2001) Eliciting the low-activity aldehyde dehydrogenase asian phenotype by an antisense mechanism results in an aversion to ethanol *J. Exp. Med.* **194**: 571-580. (Note: first gene therapy in the field of alcoholism research)

Israel Y, FT Crews, RG Thurman, G-C Tu, Garver B, Ponnappa B, Rubin R, Karahanian E, Hoplight M, Sethna M, Hanes MB, Wilkie MB and Wheeler MD. (2002) Gene and antisense delivery in alcoholism research *Alcoholism: Clin. Exp. Res.* **26**: 582-5.

Fernandez V, Videla LA, Tapia G and Israel Y. (2002) Increases in tumor necrosis factor in response to thyroid hormone-induced liver oxidative stress in the rat. *Free Radical Res.* **36**: 719-725.

Anni H and Israel Y. (2002) Proteomics: in alcoholism research. *Alcohol Research and Health* **26**: 219-232.

Ponnappa BC and Israel Y. (2002) Targeting Kupffer cells with antisense oligonucleotides *Frontiers in Biosciences.* **7**: e223-233.

Israel Y and Lieber CS. The Research Society On Alcoholism. *Addiction* **97**: 483-486, 2002

Moncada C, Fuentes N, Lladser A, Encina G, Sapag A, Karahanian E, Israel Y. (2003) Use of an "acetaldehyde clamp" in the determination of the low Km aldehyde dehydrogenase activity in H4-II-E-C3 rat hepatoma cells, *Alcohol* **31**: 19-24.

Anni H, Pristatsky P, Israel Y. (2003) Binding of acetaldehyde to a glutathione metabolite: mass spectrometric characterization of an acetaldehyde-cysteinylglycine conjugate. *Alcoholism: Clin. Exp. Res.* **27**: 1613-1621.

Sapag A, Tampier L, Valle-Prieto A, Quintanilla ME, Moncada C, Israel Y. (2003) Mutations in mitochondrial alcohol dehydrogenase (aldh2) change cofactor affinity and segregate with voluntary alcohol consumption. *Pharmacogenetics* **13**: 509-515.

Videla LA, Tapia G, Varela P, Cornejo P, Guerrero J, Israel Y, Fernandez V. (2004) Effects of acute gamma-hexachlorocyclohexane intoxication in relation to the redox regulation of nuclear

factor-kappab, cytokine gene expression, and liver injury in the rat. *Antioxid Redox Signal*. 6:471-80.

Rodriguez DA, Moncada C, Nunez MT, Lavandero S, Ponnappa BC, Israel Y. (2004) Ethanol increases tumor necrosis factor-alpha receptor-1 (tnf-r1) levels in hepatic, intestinal, and cardiac cells. *Alcohol* 33:9-15.

Ponnappa BC, Israel Y, Aini M, Zhou F, Russ R, Cao QN, Hu Y, Rubin R. (2005) Inhibition of tumor necrosis factor alpha secretion and prevention of liver injury in ethanol-fed rats by antisense oligonucleotides. *Biochem Pharmacol*. 69: 569-77.

Quintanilla ME, Tampier L, Valle-Prieto A, Sapag A, Israel Y. (2005) Complex i regulates mutant mitochondrial aldehyde dehydrogenase activity and voluntary ethanol consumption in rats. *FASEB J*. 19: 36-42.

Ezquer F, Nunez MT, Israel Y. (2005) Antisense gene delivered by an adenoassociated viral vector inhibits iron uptake in intestinal cells. Potential application for hemochromatosis. *Biochem Pharmacol*. 69: 1559-1566.

Ezquer F, Núñez MT, Asenjo J, Israel Y. (2006) Hereditary hemochromatosis: an opportunity for gene therapy. *Biol Res* 39: 113-124.

Karahanian E, Ocaranza P, Israel Y. (2005) Aldehyde dehydrogenase (aldh2) activity in rat hepatoma cells is reduced by an adenoviral vector coding for an ALDH2 antisense mRNA. *Alcohol Clin Exp Res*, 29, 1384–1389

Quintanilla ME Tampier L. Sapag A, Israel Y. (2005) Polymorphisms in the mitochondrial aldehyde dehydrogenase-2 gene (*aldh2*) determine peak blood acetaldehyde levels and voluntary ethanol consumption in rats. *Pharmacogenetics Genomics* 15: 427-431.

Israel, Y., Quintanilla, M.E., Sapag, A., Tampier, L. (2006) Autosomal and maternal genes influence alcohol intake in alcohol drinker and nondrinker rat lines: role of the acetaldehyde burst. *Alcoholism, Clinical and Experimental Research*, 30, 276

Quintanilla, M.E., Israel, Y., Sapag, A., Tampier, L., (2006) The UChA and UChB rat lines: metabolic and genetic differences influencing ethanol intake. *Addiction Biology*, 11, 310-323.

Quintanilla, M.E., Bustamante, D., Tampier, L., Israel, Y. and Herrera-Marschitz, M. (2007) Dopamine release in the nucleus accumbens (shell) of two lines of rats selectively bred to prefer or avoid alcohol. *Eur. J. Pharmacology*, **573**, 84-92.

Quintanilla, M.E., Tampier, L., Sapag, A., Gerdtzen, Z. and Israel Y. (2007) Sex differences, alcohol dehydrogenase, acetaldehyde burst, and aversion to ethanol in the rat: a systems perspective. *Am. J. Physiol Endocrinol Metab*. 293, 531-537.

Karahanian, E., Sapag, A., Israel, Y., Ocaranza, P., Quintanilla, ME, Tampier, L. (2007) Gene Therapy Reduces Etanol Intake in an Animal Model of Alcohol Dependence. *Alcohol Clinical*

and Experimental Research, **32**, 52-57

\*\*\*Ocaranza, P., Quintanilla, ME., Tampier, L., Karahanian, E., Sapag, A. and Israel, Y. (2008) Gene therapy reduces ethanol intake in an animal model of alcohol dependence. *Alcohol Clin Exp Res* 32, 52-57 (**Note:** Single administration of a viral vector reduces alcohol consumption of 35 day. Under translational research funding to Asenjo et al).

Tampier, L., Quintanilla, ME. and Israel Y. (2008) Tolerance to disulfiram induced by chronic alcohol intake in the rat. *Alcohol Clin Exp Res.* 32, 937-41.

Bustamante, D., Quintanilla, ME., Tampier, L., Gonzalez-Lira, V., Israel Y. and Herrera-Marschitz, M. (2008) Ethanol induces stronger dopamine release in nucleus accumbens (shell) of alcohol-preferring (bibulous) than in alcohol-avoiding (abstainer) rats. *Eur J Pharmacol.* 591, 153-158

Sapag, A., Gonzalez-Martínez, G., Lobos-González, L., Encina, G., Tampier L., Israel, Y. and Quintanilla, M.E. (2009) Polymorphisms in mitochondrial genes encoding complex I subunits are maternal factors of voluntary alcohol consumption in the rat. *Pharmacogenet Genomics*, 19, 528-537.

Cortinez, G., Sapag, A. and Israel, Y. (2009) RNA interference against aldehyde dehydrogenase-2: development of tools for alcohol research. *Alcohol*, 3, 97-104

\*\*\*Rivera, M., Quintanilla, M.E, Tampier, L., Mura, C., Sapag, A., Israel, Y. (2010) Mechanism of Protection against alcoholism by an alcohol dehydrogenase polymorphism: Development of an animal model. *FASEB Journal* 24, 266-274. (**Note:** Solves mechanism of major genetic protection against alcoholism).

Pautassi RM, Camarini R., Quadros IM; Miczek KA Israel Y. (2010) Genetic and environmental influences on alcohol consumption: perspectives from preclinical research. *Alcohol Clin Exp.* 234, 976-987.

Israel Y, Rivera-Meza M, Quintanilla ME, Sapag A, Tampier L.(2011) Acetaldehyde burst protection of ADH1B\*2 against alcoholism: an additional hormesis protection against esophageal cancers following alcohol consumption? *Alcohol Clin Exp Res* 35(5), 806-810.

\*\*\*Karahanian E, Quintanilla M.E, Tampier L, Rivera-Meza M, Bustamante D, Gonzalez-Lira V, Morales P, Herrera-Marschitz M, Israel Y. (2011) Ethanol as a prodrug: brain metabolism of ethanol mediates its reinforcing effects. *Alcohol Clin Exp Res* 35, 606-612. (**Note:** The Journal commissioned an Editorial that appeared in the same issue, to emphasize this work).

\*\*\*Quintanilla ME, Tampier L, Karahanian E, Rivera-Meza M, Herrera-Marschitz M and Yedy Israel (2011) Reward and relapse: Complete gene-induced dissociation in an animal model of alcohol dependence. *Alcohol: Clin Exp Res*, 2011 (in Press) (**Note:** Demonstrates complete suppression of alcohol intake in alcohol dependent “alcoholic” rats. Invited to address topic to open the University-wide open Inaugural Lecture on Pharmacogenetics at the University of Toronto, Canada on March 2011)

## **PATENTS**

Israel, Y., Karahanian, E., Quintanilla, M.E., Tampier, L., Bustamante, D., Herrera-Marschitz (2010 and 2011) Patents pending in Chile United States. Method to reduce alcohol ingestion.

Tu G-C and Israel Y (2001)

US Patent 6,277,981 Method for design and selection of efficacious antisense oligonucleotides.

Israel Y. Kapur B and Tu G-C (1994)

US Patent 5,290,683 Rapid analysis of ethanol in body fluids.

Giles G and Israel Y. (1991)

US Patent 4,997,770 Method for detecting blood alcohol in humans by testing vapor above the eye

Israel Y and Arnon R (1990)

US Patent 4,900,664 Reagent for detection and measurement of acetaldehyde-protein condensates in a fluid together with its preparation and method of use

Israel Y, Oporto B and Mcdonald A (1986)

US Patent 4,628,866 Simultaneous matched feeding apparatus