Phyllis Gardner
Professor of Medicine (Clinical Pharmacology)
Medicine - Clinical Pharmacology

Bio

ACADEMIC APPOINTMENTS

- Professor, Medicine - Clinical Pharmacology

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

We are interested in the general process of signal transduction, focusing on the role that ion channels play in this process. By means of patch clamp recording and associated cell and molecular biological techniques, we have studied:

1. Voltage-insensitive Ca2+ channels, Ca2+-dependent K+ channels, other downstream Ca2+ dependent effector molecules; role in cellular activation and signal transduction.

2. Cystic fibrosis Cl-channels in epithelial cells and lymphocytes; associated signal transduction pathways and cell biological coupling mechanisms. Phase I/II AAV-CFTR gene therapy trials.

3. NFAT mediated gene transcription; modulations by kinases and phosphatases.

Publications

PUBLICATIONS

- Genetic Analysis of Presbycusis by Arrayed Primer Extension. *ANNALS OF CLINICAL AND LABORATORY SCIENCE*
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- Comprehensive arrayed primer extension array for the detection of 59 sequence variants in 15 conditions prevalent among the (Ashkenazi) Jewish population. *JOURNAL OF MOLECULAR DIAGNOSTICS*
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- Simultaneous multigene mutation detection in patients with sensorineural hearing loss through a novel diagnostic microarray: A new approach for newborn screening follow-up. *PEDIATRICS*
  Gardner, P., Oitmaa, E., Messner, A., Hoefsloot, L., Metspalu, A., Schrijver, I.
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Hereditary sensorineural hearing loss: advances in molecular genetics and mutation analysis
Schrijver, I., Gardner, P.
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Genotyping microarray for the detection of more than 200 CFTR mutations in ethnically diverse populations
Schrijver, I., Oitmaa, E., Metspalu, A., Gardner, P.
2005; 7 (3): 375-387

Diagnostic testing by CFTR gene mutation analysis in a large group of Hispanics novel mutations and assessment of a population-specific mutation spectrum
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A phase II, double-blind, randomized, placebo-controlled clinical trial of tgAAVCF using maxillary sinus delivery in patients with cystic fibrosis with antrostomies
2002; 13 (11): 1349-1359

Safety and biological efficacy of an adeno-associated virus vector cystic fibrosis transmembrane regulator (AAV-CFTR) in the cystic fibrosis maxillary sinus
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Maxillary sinusitis as a surrogate model for CF gene therapy clinical trials in patients with antrostomies
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Adenovirus-mediated transduction of intestinal cells in vivo
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A phase I/II study of tgAAV-CF for the treatment of chronic sinusitis in patients with cystic fibrosis
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Nuclear export of NF-ATc enhanced by glycogen synthase kinase-3
Beals, C. R., Sheridan, C. M., Turck, C. W., Gardner, P., Crabtree, G. R.
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Toward cystic fibrosis gene therapy
ANNUAL REVIEW OF MEDICINE 1997; 48: 203-216

Reduced IL-10 secretion by CD4(+) T lymphocytes expressing mutant cystic fibrosis transmembrane conductance regulator (CFTR)
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Mechanism of the antiproliferative action of leflunomide - A77 1726, the active metabolite of leflunomide, does not block T-cell receptor-mediated signal transduction but its antiproliferative effects are antagonized by pyrimidine nucleosides
Cao, W. W., Kao, P. N., Chao, A. C., Gardner, P., Ng, J., Morris, R. E.
JOURNAL OF HEART AND LUNG TRANSPLANTATION 1995; 14 (6): 1016-1030
• CALCIUM-DEPENDENT AND CAMKII-DEPENDENT CHLORIDE SECRETION INDUCED BY THE MICROSOMAL CA2+-ATPASE INHIBITOR 2,5-DI-(TERT-BUTYL)-1,4-HYDROQUINONE IN CYSTIC-FIBROSIS PANCREATIC EPITHELIAL-CELLS JOURNAL OF CLINICAL INVESTIGATION
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• RECOMBINANT HUMAN TUMOR-NECROSIS-FACTOR-ALPHA INDUCES CALCIUM OSCILLATION AND CALCIUM-ACTIVATED CHLORIDE CURRENT IN HUMAN NEUTROPHILS - THE ROLE OF CALCIUM CALMODULIN-DEPENDENT PROTEIN-KINASE JOURNAL OF BIOLOGICAL CHEMISTRY
  SCHUMANN, M. A., Gardner, P., Raffin, T. A.
• SIGNAL TRANSDUCTION BY T-CELL RECEPTORS - MOBILIZATION OF CA AND REGULATION OF CA-DEPENDENT EFFECTOR MOLECULES AMERICAN JOURNAL OF PHYSIOLOGY
  Premack, B. A., Gardner, P.
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• ANTISENSE OLIGODEOXYNUCLEOTIDES TO THE CYSTIC-FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR INHIBIT CAMP-ACTIVATED BUT NOT CALCIUM-ACTIVATED CHLORIDE CURRENTS PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA
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• DIHYDROPYRIDINE BAY K-8644 ACTIVATES LYMPHOCYTE-T CALCIUM-PERMEABLE CHANNELS MOLECULAR PHARMACOLOGY
  Young, W., Chen, J., Jung, F., Gardner, P.
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