



**ASCPT and FDA**

**Dr. William B.  
Abrams Lecture**

**Pharmacogenomics:  
SNPs and Function**

**WHEN:** Wednesday, December 1, 2004  
1:30 pm - 2:30 pm

**SPEAKER:** Richard M. Weinshilboum, MD  
Professor of Pharmacology and Medicine  
Mayo Clinic  
Rochester, MN

**WHERE:** Food and Drug Administration  
Parklawn Building  
5600 Fishers Lane  
Third Floor Conference Room D  
Rockville, Maryland

## GENERAL INFORMATION

### AWARDEE FOR 2004

Richard M. Weinshilboum, MD  
Professor of Pharmacology and Medicine  
Mayo Clinic, Rochester, MN

### DATE AND TIME

December 1, 2004, 1:30 pm - 2:30 pm

### LOCATION

Food and Drug Administration  
Parklawn Building  
5600 Fishers Lane  
Third Floor Conference Room D  
Rockville, Maryland

### REGISTRATION FEE

Complimentary

### TARGET AUDIENCE

Physicians, pharmacists and  
other scientists interested in  
drug development.

### CONTINUING EDUCATION CREDIT

The Food and Drug Administration,  
Center for Drug Evaluation and  
Research is accredited by the  
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certificate of credit within 60 days.  
If you lose your certificate or do not  
receive one contact Karen Zawalick  
at: FDA, 5600 Fishers Lane,  
Rm. 12B-10, Rockville, MD 20857.

## Richard M. Weinshilboum, MD



Dr. Weinshilboum received B.A. and M.D. degrees from the University of Kansas, followed by residency training in Internal Medicine at the Massachusetts General Hospital, a Harvard teaching hospital, in Boston. He was also a Pharmacology Research Associate at the National Institutes of Health in Bethesda, Maryland, in the laboratory of Nobel laureate Dr. Julius Axelrod. Dr. Weinshilboum began his affiliation with the Mayo Medical School and Mayo Clinic in Rochester, Minnesota, in 1972 where he is presently Professor of Molecular Pharmacology and Experimental Therapeutics and Internal Medicine. Dr. Weinshilboum's research has focused on pharmacogenetics and pharmacogenomics, and he has authored over 240 scientific manuscripts which address these topics. His major area of investigation has been the pharmacogenetics of drug metabolism, with a focus on methylation and sulfation. Dr. Weinshilboum has been the recipient of many awards and honors including an Established Investigatorship of the American Heart Association, a Burroughs Wellcome Scholar Award in Clinical Pharmacology, the Oscar B. Hunter Award of the American Society for Clinical Pharmacology and Therapeutics, and the Harry Gold Award of the American Society for Pharmacology and Experimental Therapeutics.

## OVERVIEW

Pharmacogenomics has as a goal the correlation of variation in DNA sequence or structure with function – i.e., variation in drug response. Achievement of that goal has become increasingly possible with completion of The Human Genome Project and application of the research "techniques" of molecular biology and genomics. One very common DNA sequence variant that is responsible for "pharmacogenetic-pharmacogenomic" variation in drug response involves nonsynonymous coding single nucleotide polymorphisms (cSNPs), SNPs that alter encoded amino acid sequence. A common mechanism by which nonsynonymous cSNPs influence function involves striking decreases in protein quantity. Examples include the pharmacogenetically well-characterized thiopurine S-methyltransferase (TPMT) polymorphism as well as a variety of genetic polymorphisms involving other methyl and sulfate conjugating enzymes that play a role in drug metabolism. This presentation will use these examples from pharmacogenetics to illustrate mechanisms by which common, nonsynonymous cSNPs influence function.

## LEARNING OBJECTIVES

1. Describe mechanisms by which nonsynonymous cSNPs influence function, and their relationship to pharmacogenetics.
2. Describe mechanisms by which nonsynonymous cSNPs might result in changes in protein quantity, and their relationship to pharmacogenetics.
3. Using pharmacogenetics examples, illustrate the mechanisms by which common, nonsynonymous cSNPs influence function.

Please print

First Name

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Special Needs: I have special requirements, please call me.

**Please fax this form to ASCPT at 703.836.5223 on or before Monday, April 19.**