1521-009X/52/10/1037–1038$35.00
Drug Metabolism and Disposition

dx.doi.org/10.1124/dmd.124.001911
Drug Metab Dispos 52:1037–1038, October 2024

Scientific Contributions to Drug Metabolism by Dr. Edward T. Morgan, the Recipient of the Bernard B. Brodie Award in Drug Metabolism and Disposition in 2024–Editorial

Received August 16, 2024; accepted August 19, 2024

Established in 1978, the Bernard B. Brodie Award in Drug Metabolism and Disposition, sponsored by the Division for Drug Metabolism and Disposition (DMDD) of the American Society for Pharmacology and Experimental Therapeutics (ASPET), was awarded to its 25th recipient, Dr. Edward T. Morgan, in the 2024 ASPET Annual Meeting in Arlington, Virginia (Fig. 1). The B. B. Brodie Award in Drug Metabolism and Disposition is established to commemorate the fundamental contributions of Dr. Bernard B. Brodie in the field of drug metabolism and disposition. The awards recognize outstanding contributions of original research in drug metabolism and disposition, particularly to those making a major impact on future research in the field.

Dr. Morgan is Professor Emeritus in the Department of Pharmacology and Chemical Biology at Emory University School of Medicine in Atlanta, Georgia. He earned his Ph.D. in Pharmacology from the University of Glasgow. Following that, he was trained as a Postdoctoral Fellow with Dr. Jud Coon at the University of Michigan. After working as a Visiting Scientist Fellow at the Karolinska Institute for four years, he started his faculty career at Emory University, progressing from Assistant to Associate to Full Professor. In addition to his academic positions, he has served as President of ASPET, Chair of DMDD, Editor of *Drug Metabolism and Disposition*, and Associate Editor of *Molecular Pharmacology*.

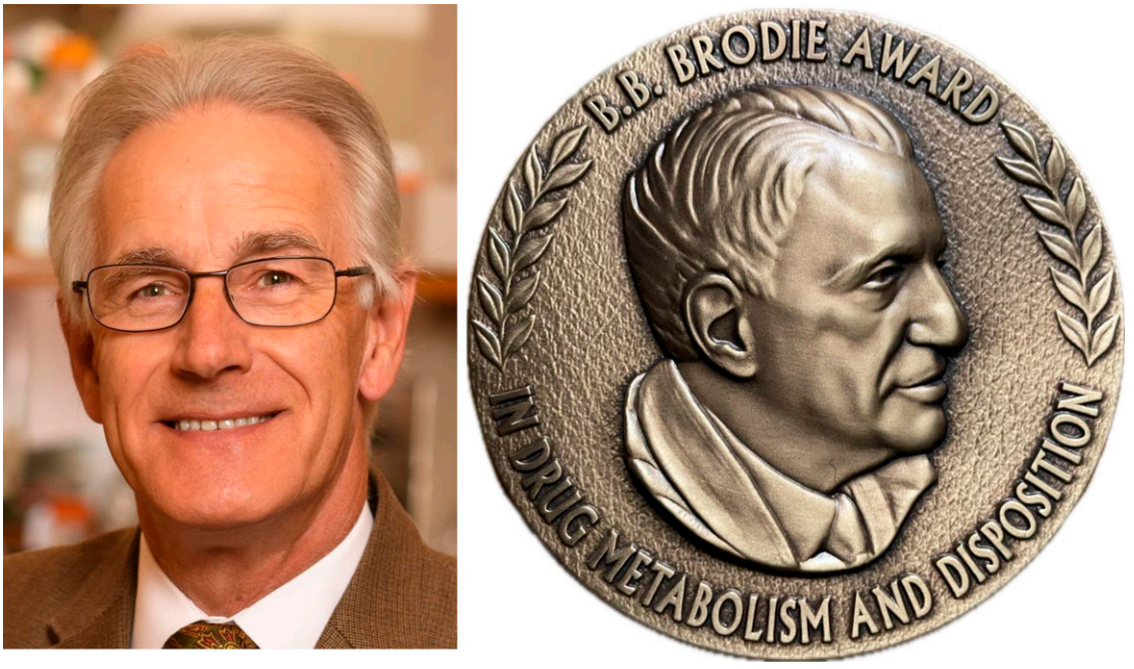

Fig. 1. Dr. Edward T. Morgan was the recipient of the Bernard B. Brodie Award in Drug Metabolism and Disposition, awarded by the Division for Drug Metabolism and Disposition (DMDD) of the American Society for Pharmacology and Experimental Therapeutics (ASPET) in 2024. Photos are reproduced with permission from Dr. Morgan.

This work received no external funding.
The authors declare that they have no conflicts of interest with the contents of this article.
dx.doi.org/10.1124/dmd.124.001911.

ABBREVIATIONS: ASPET, American Society for Pharmacology and Experimental Therapeutics; DMDD, Drug Metabolism and Disposition Division; P450, cytochrome P450.

Dr. Morgan has made significant scientific contributions to the field of drug metabolism and disposition throughout his entire career. During his graduate and postdoctoral training, he identified CYP2E1 as the cytochrome P450 (P450) enzyme that metabolizes ethanol and acetaminophen (Koop et al., 1982; Morgan et al., 1982, 1983). These works have provided a mechanistic and molecular basis for the clinical importance of alcohol-drug interactions and acetaminophen-induced liver injury. At the Karolinska Institute, he proved that sex-specific expression of P450s is regulated by growth hormone (Morgan et al., 1985), helping us to understand differences in P450-mediated drug metabolism between men and women, which is the basis for guiding drug usage in cases where women need to take different doses from men. During Dr. Morgan's early faculty career at Emory University, he started to focus on molecular events in the regulation of P450-mediated drug metabolism in various inflammatory conditions (Morgan, 1989). His pioneering research helped uncover the important clinical implications of this regulation in the large population of people who are affected by various inflammatory diseases. Dr. Morgan first demonstrated that the expression and functions of P450-mediated drug metabolism are altered in various inflammatory diseases. Using molecular approaches and in vitro as well as in vivo models, he further provided evidence that different cytokines regulate P450 expression during inflammatory conditions (Morgan et al., 1994; Aitken and Morgan, 2007). His group also demonstrated a series of molecular events in the transcriptional regulation of P450s by cytokines and identified the major regulatory proteins that interact in the promoter regions of targeted P450 genes (Chen et al., 1995). Recently, he teamed with another Emory University laboratory, applying his group's expertise in drug metabolism to develop a large-scale enzyme-based xenobiotic identification for metabolomics and exposomics (Liu et al., 2021). The novel approach has unlocked new potential for annotating the unknown metabolome in a very efficient way.

Dr. Morgan is an internationally acclaimed leader in disease-mediated regulation of drug metabolism and has made exceptional original research contributions to understanding the impact of this regulation. Dr. Morgan's contributions have been distinctive and have had significant and enduring impacts on the field. In addition to his research contributions, Dr. Morgan has a long and distinguished record of service to ASPET, particularly to the DMDD, and has been honored deservedly with the B. B. Brodie Award in Drug Metabolism and Disposition in 2024. His award lecture synopsis is published in this issue of *Drug Metabolism and Disposition* (Morgan, 2024).

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Authorship Contributions

Wrote or contributed to the writing of the manuscript: Zhong, Lai.

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