

Biography—Susan M. Fischer, Ph.D.

© Springer Science+Business Media, LLC 2011



Dr. Susan M. Fischer is a professor in the Department of Molecular Carcinogenesis at the Science Park—Research Division of the University of Texas MD Anderson Cancer Center (UTMDACC). She received her Ph.D. in Zoology and Physiology from the University of Wyoming and carried out her postdoctoral studies under Dr. Charles Shaw at the UTMDACC. She then moved to the Oak Ridge National Laboratory in Tennessee where, as a junior scientist working under the guidance of Dr. Thomas Slaga, she began her studies on experimental carcinogenesis. After 6 years, she moved back to Texas as an assistant professor in the Department of Molecular Carcinogenesis at UTM-DACC, where she moved up through the ranks to full professor and briefly served as ad interim chair of the department. She also holds adjunct faculty positions in the Division of Pharmacology and Toxicology and in the Department of Nutritional Sciences at the University of Texas at Austin.

Dr. Fischer's research interests have been focused on the role of inflammation in the development of cancer, with an interest in cancer prevention through targeting components of the inflammatory process. While the primary emphasis

of her research team has been elucidation of the role of eicosanoids in neoplasia, they have also shown that reactive oxygen species and cytokines are important contributors to carcinogenesis. Generating and using genetically engineered mouse models, her team showed that COX-2, but not COX-1, is required for ultraviolet light induced skin cancer. Further studies demonstrated that COX-2-induced prostaglandin synthesis has tumor promoting activity via the same signaling pathways activated by phorbol ester tumor promoters. Dr. Fischer's team also demonstrated that overexpression of COX-2 in the pancreas causes spontaneous pancreatitis that progresses to pancreatic ductal adenocarcinoma, establishing a new mouse model for the disease. In recent years, her laboratory has focused on two areas, elucidating the contribution of each of the four EP receptors for prostaglandin E₂ to skin cancer and understanding the molecular mechanisms behind the demonstration by her laboratory, in collaboration with Dr. Steve Hursting, that calorie restriction inhibits, while obesity exacerbates, pancreatitis and pancreatic cancer. These findings offer new strategies, targets, and opportunities for cancer prevention.

Dr. Susan M. Fischer has co-authored over 200 publications in journals that include *Cancer Research*, *Molecular Cancer Research*, *Journal of Biological Chemistry*, *Proceedings of the National Academy of Sciences*, *Cancer Prevention Research*, *Cancer Cell*, *Clinical Cancer Research*, *Journal of Lipid Research*, etc. She has served on numerous NCI and ACS Study Sections, served on the ACS Extramural Grants Council, chaired and served on several external advisory committees, served on program committees for the annual AACR meeting, and established the biannual International Skin Carcinogenesis Conference.