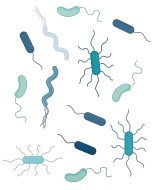
Member: Richard M. Peek, Jr., MD
Rank: Mina Cobb Wallace Professor
Department: Medicine, Pathology, Microbiology and Immunology, and Cancer Biology
VDDRC Status: Full Member
Research Group: GII





Rationale for VDDRC Membership

I am the PI and Director of the VDDRC, and my research focuses on digestive diseases, with an emphasis on *H. pylori*-induced gastric inflammation and injury. An example of a publication supported by the VDDRC is Noto JM, Piazuelo MB, Romero-Gallo J, Delgado AG, Suarez G, Akritidou K, Girod Hoffman M, Roa JC, Taylor CT, **Peek RM, Jr**. Targeting hypoxia-inducible factor-1 alpha suppresses Helicobacter pylori-induced gastric injury via attenuation of both cag-mediated microbial virulence and proinflammatory host responses. *Gut Microbes*. 2023;15(2):2263936. PMCID: PMC10578190.

Digestive Diseases-Related Grants

Grant Number	Title	Project Period	Annual Direct Costs
P01CA116087	*H. pylori*-induced inflammation and gastric cancer	04/02/2024-02/28/2029	$1,049,836
R01CA281732	Interactions between the microbiota and *Helicobacter pylori* in gastric carcinogenesis	06/01/2023-05/31/2028	$530,921
R01CA077955	*H. pylori* relationship to digestive diseases and cancer	05/01/2023-04/30/2028	$306,703
R01DK058587	*Helicobacter pylori* and gastrointestinal biology	09/15/2020-06/30/2026	$221,671

Summary of Digestive Disease Research

The overarching theme for our research has been the delineation of the signaling events initiated by bacterial: epithelial cell contact that regulate gastric disease phenotypes using innovative and complementary model systems. We utilize *ex vivo* gastric organoid systems that closely recapitulate cellular organization in the stomach to examine aberrant responses to oncogenic *H. pylori* strains. We also developed robust and reproducible rodent models of *H. pylori*-induced gastric cancer. We have continually extended our observations into human populations and have previously examined interactions between host and pathogen genetic ancestry that influence disease development in persons at high or low risk for disease.

VDDRC-Related Training and Activities

PI, VDDRC
Director, VDDRC Administrative Core
Former Pilot & Feasibility Award Recipient
Retreat Poster Judge
Retreat Speaker

VDDRC Collaborations

We collaborate extensively with numerous VDDRC members, including Drs. Acra, Algood, Choksi, Choi, Coffey, Cover, Flynn, Goettel, Goldenring, E. Lee, Piazuelo, Washington, K. Wilson, J. Wilson, and Yan, among others, for various aspects of our *H. pylori*-related research. An example of a collaborative publication supported by the VDDRC is Kaur H, Ali SA, Short SP, **Williams CS**, **Goettel JA**, **Washington MK**, **Peek RM**, **Acra SA**, **Yan F**. Identification of a functional peptide of a probiotic bacterium-derived protein for the sustained effect on preventing colitis. *Gut Microbes*. 2023;15(2):2264456. PMCID: PMC10566403.

Future VDDRC Core Use

Our use of the Cell Imaging, Flow Cytometry, and MS/Omics Cores will continue to increase as we implement new technologies, such as metabolomics and live-cell imaging. In addition, we will continue to use the Translational Analysis Core for the evaluation of our animal models of infection, with extension into human disease states.