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**Jeffery A. Colby Colon Cancer Research Fund at the U-M Rogel Cancer Center
Research Update
March 2020**

Philanthropic resources are critical to driving innovation in colon cancer research at the University of Michigan. Your commitment enables researchers to pursue novel research to advance new approaches to benefit patients here and around the world.

Thanks to the Jeffery A. Colby Colon Cancer Research Fund, Yatrik Shah, Ph.D., was able to pursue a drug discovery project in 2019. The following is a summary of his project and what he hopes the results will achieve.

WHILE THE ANNUAL RATE OF NEW COLORECTAL CANCER CASES HAS DECREASED over the last two decades, it remains a common and sometimes deadly type of cancer in the United States, and worldwide. Despite advances in early detection and treatment, the five-year survival rate for those with distantly metastatic colorectal cancer is only 13.5 percent. It is imperative that we develop new approaches to treatment.

Recent data point to the regulation of amino acid supply as a novel target for therapy in some cancers. Colorectal cancer cells depend heavily on the availability of amino acids, which presents a vulnerability that can potentially be exploited. Dr. Shah's research thus far has demonstrated a key link between amino acid levels and colorectal cancer cell growth. He has also identified a mechanism by which the cancer cells sense and utilize amino acids. To interfere with cancerous cell growth and proliferation, intervening in the processes that the cells use to monitor amino acid levels may be a new approach for treatment. Dr. Shah and his team have screened over 13,000 unique compounds to look for compounds that would specifically block the sensing of amino acids.

Dr. Shah and his colleagues have found several promising candidates that they will continue to study further in the laboratory. The research has the potential to result in the discovery of a new drug that can effectively starve colorectal cancer cells, possibly lead to a new treatment approach for colorectal cancer patients across the globe.

Dr. Shah's innovative research would not be possible without the support of the Jeffery A. Colby Colon Cancer Research Fund. Our team is deeply grateful for this support, as it grants committed researchers like Dr. Shah the ability to change the lives of our patients for the better.



About Dr. Shah

Dr. Yatrik Shah is the Horace W. Davenport Collegiate Professor of Physiology, as well as professor of molecular and integrative physiology, and internal medicine, at the University of Michigan.

His interests are in the molecular mechanisms by which cellular oxygen regulates inflammation and cancer. He has published multiple papers on the link between low cellular oxygen — hypoxia — and inflammation, immunosuppression, and cancer growth.

He received his Ph.D. from the University of Toledo Health Science Center. After a postdoctoral fellowship at the National Cancer Institute, he began his career at the University of Michigan in 2010. Dr. Shah's focus is to develop new therapies for colon cancer.

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