

VANDERBILT
SCHOOL OF MEDICINE

Basic Sciences

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Biosketch

Dr. Cook was born and raised in rural Alaska, received her Bachelor's degree in Biology from Vanderbilt University in 1993 and a Ph.D. in Developmental Biology from the University of Cincinnati in 1998. Dr. Cook did her post-doctoral fellowship training in the field of breast cancer biology with Dr. Carlos Arteaga at Vanderbilt University and with Dr. H. Shelton Earp at University of North Carolina. Dr. Cook joined the faculty at Vanderbilt University in 2010.

Key Publications

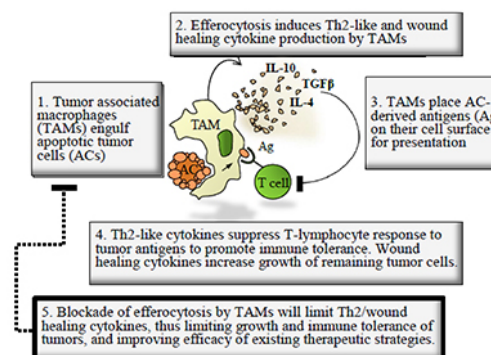
1. "ErbB3 downregulation enhances luminal breast tumor response to antiestrogens," *Journal of Clinical Investigation*, Volume 123, pages 4329-4343. 2013
2. "Efferocytosis produces a prometastatic landscape during postpartum mammary gland involution," *Journal of Clinical Investigation*, Volume 124: pages 4737-4752. 2014
3. "Treatment-induced tumor cell apoptosis and secondary necrosis drive tumor progression in the residual tumor microenvironment through MerTK and IDO-1," *Cancer Res*, epub ahead of print. PMID: 30413412, 2018

"How tumors manipulate the immune system to increase cancer spreading throughout the body"

The research goals of the Cook laboratory are to **understand molecular pathways regulating breast development**, how these are **commandeered by cancers**, and to apply this information towards **developing stronger, safer treatments** for breast cancer patients.

Recent efforts are aimed at understanding how **immune responses in the tumor microenvironment become suppressed**, creating a permissive and fertile soil for tumor progression. Importantly, we are finding ways to **alter immune responses in breast tumors** to fight tumor cells at all stages of cancer progression.

How does tumor cell death suppress immune responses in tumors?



How can we re-direct communication between the dying tumor cell and the immune system?

