

CANCER IMMUNOLOGY RESEARCH

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 Mustafa Diken, Oliver Kepp, and Arthur N. Brodsky

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- 19 **Tryptophan 2,3-Dioxygenase Expression Identified in Human Hepatocellular Carcinoma Cells and in Intratumoral Pericytes of Most Cancers**
 Delia Hoffmann, Tereza Dvorakova, Vincent Stroobant, Caroline Bouzin, Aurélie Daumerie, Marie Solvay, Simon Klaessens, Marie-Claire Letellier, Jean-Christophe Renauld, Nicolas van Baren, Julie Lelotte, Etienne Marbaix, and Benoit J. Van den Eynde
 Immunosuppressive tumor microenvironments are supported by tryptophan catabolism. Human mAbs identify expression of the catabolic enzyme TDO by a subset of tumors, including hepatocellular carcinoma, whereas other cancers restrict expression to intratumoral pericytes, suggesting a role in neoangiogenesis.
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 Florence Schramme, Stefano Crosignani, Kim Frederix, Delia Hoffmann, Luc Pilotte, Vincent Stroobant, Julie Preillon, Gregory Driessens, and Benoit J. Van den Eynde
 Tryptophan catabolism contributes to tumor immune escape, so inhibiting it could improve antitumor immune therapies. Response to immune checkpoint blockade is enhanced when used with the TDO inhibitor PF06845102/EOS200809 or when administered to TDO-KO mice.
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- 46 **A Neupilin-1 Antagonist Exerts Antitumor Immunity by Inhibiting the Suppressive Function of Intratumoral Regulatory T Cells**
 Keunok Jung, Jeong-Ah Kim, Ye-Jin Kim, Hyun Woo Lee, Chul-Ho Kim, Seokjin Haam, and Yong-Sung Kim
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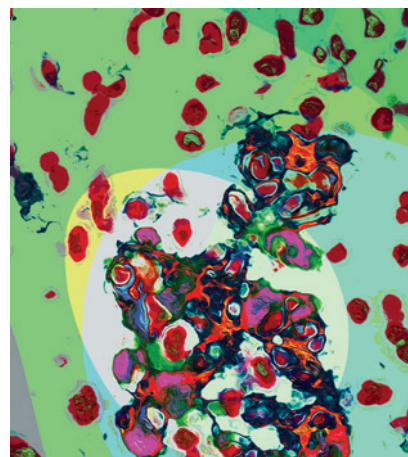
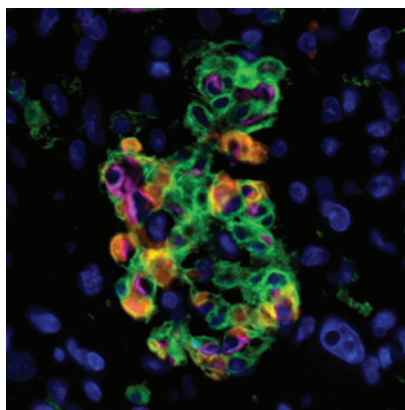
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ABOUT THE COVER

Tumors can utilize tryptophan catabolism, via indoleamine 2,3-dioxygenase (IDO1) or tryptophan 2,3-dioxygenase (TDO), to evade anti-tumor immunity. Although IDO1 is expressed in various tumors and is an antitumor therapeutic target, tumoral TDO expression is poorly characterized, so its usefulness as part of a cancer treatment remains untested. To improve the characterization of TDO, Hoffmann et al. develop TDO-specific monoclonal antibodies and find that most human cancers express TDO; TDO can be expressed on tumor cells or the pericytes of the tumor microenvironment, depending on the tumor type. Schramme et al. develop a small-molecule inhibitor of TDO that improves the antitumor efficacy of immune checkpoint blockade in a TDO-dependent manner. Together, the articles from the Van den Eynde laboratory establish the role of TDO in tumor immune evasion. To read more, Hoffmann et al. begins on page 19 and Schramme et al. begins on page 32. Original immunofluorescence imaging of TDO expression (orange) in human glioblastoma by the Van den Eynde laboratory. Artwork by Lewis Long.



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