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Clinical Impact of Tumor DNA Repair Expression and T-cell Infiltration in Breast Cancers

This study provides clinical evidence that the interplay between DNA repair, CD8+ T cells, and expression of PD-L1 and PD-1 can promote aggressive tumor phenotypes. XRCC1-directed personalization of immune checkpoint inhibitor therapy may be feasible in breast cancer.

Induction of NKG2D Ligands on Solid Tumors Requires Tumor-Specific CD8+ T Cells and Histone Acetyltransferases
Jiemiao Hu, Chantale Bernatchez, Liangfang Zhang, Xueqing Xia, Eugenie S. Kleinerman, Mien-Chie Hung, Patrick Hwu, and Shulin Li

NKG2D-mediated immune surveillance is crucial for inhibiting tumor growth and metastases, but tumors often downregulate NKG2D ligands. A therapeutic strategy to restore tumor-specific expression of NKG2D ligands on solid tumors was developed that induced tumor regression and increased survival.

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RESEARCH ARTICLES

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Serine Proteases Enhance Immunogenic Antigen Presentation on Lung Cancer Cells

Lung cancer cells exposed to granulocyte serine proteases increased the presentation of both endogenous peptides and the exogenous, protease-derived, HLA-A2–restricted PR1 peptide. Circulating CTLs specific for these peptides were identified in lung cancer patients.

Promoter Methylation Modulates Indoleamine 2,3-Dioxygenase 1 Induction by Activated T Cells in Human Breast Cancers
Satish K. Noonepalle, Franklin Gu, Eun-Joon Lee, Jeong-Hyeon Choi, Qimei Han, Jaejik Kim, Maria Ouzounova, Austin Y. Shull, Lirong Pei, Pei-Yin Hsu, Ravindra Kolhe, Fang Shi, Jiseok Choi, Katie Chiou, Tim H.M. Huang, Hasan Korkaya, Libin Deng, Hong-Bo Xin, Shuang Huang, Muthusamy Thangaraju, Arun Sreekumar, Stefan Ambs, Shou-Ching Tang, David H. Munn, and Huidong Shi

Triple-negative breast cancers (TNBCs) are often infiltrated by T cells. These tumors counteracted T-cell activity through hypomethylated IDO1 promoters and increased IDO1 expression in response to IFNγ, providing a rationale for treatment of TNBC with IDO inhibitors.