

Study may help explain racial disparities in prostate cancer

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New research published in *Molecular Oncology* may help explain why African American men are at a higher risk of being diagnosed with prostate cancer and a higher risk of dying from the disease compared with European American men.

When investigators analyzed prostate [cancer](#) samples from patients, they found that a signaling molecule called interleukin-6 (IL6) is overexpressed in tumor-adjacent tissues in African-American men compared with European-American men.

Additional experiments revealed that IL6 inhibits expression of the p53 [tumor suppressor protein](#), promotes self-renewal of cancer cells, and is associated with stem cell-like properties in prostate cancer cell lines.

"Our most recent research into the biological underpinnings for why African American men are more likely to be diagnosed with prostate cancer and die of the disease relative to other races or ethnicities has uncovered that IL6 is enriched in the tissue environment surrounding high-grade prostate cancer tumors from African American men," said senior author Dr. Aliccia Bollig-Fischer, of the Barbara Ann Karmanos Cancer Institute in Detroit. "Not only did we uncover evidence that IL6 inactivates the [p53 tumor suppressor](#) in this context, our research also revealed that IL6 from the cancer cell environment causes an increase of a protein variant called MBD2_v2. This fuels an expansion of aggressive cancer cells, known as prostate cancer stem cells, which are considered to be the source of therapy resistance and metastatic tumor growth."

In a follow-up study underway, Dr. Bollig-Fischer's laboratory team will gain a more complete understanding of this novel cancer cell signaling process activated by IL6 derived from the tumor environment. "Our goal is to identify opportunities to develop transformative, targeted therapies to

overcome race disparities and improve outcomes for all men with aggressive [prostate cancer](#)," she said.

More information: Emily A. Teslow et al, Exogenous IL6 induces mRNA splice variant MBD2_v2 to promote stemness in TP53 wild-type, African American PCa cells, *Molecular Oncology* (2018). [DOI: 10.1002/1878-0261.12316](https://doi.org/10.1002/1878-0261.12316)

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