

Researchers confirm genetic alteration that triggers prostate cancer in mice and man

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A team of researchers led by Valeri Vasioukhin, Ph.D., and Peter Nelson, M.D., both investigators in the Human Biology Division at Fred Hutchinson Cancer Research Center, has confirmed that a molecular change found in human prostate cancers triggers the growth of prostate cancer in mice and in human cell lines. Their findings will be published Jan. 28 in the online early edition of the *Proceedings of the National Academy of Sciences*.

A significant proportion of human prostate cancers carry a chromosomal rearrangement that results in the overexpression of the ETS transcription factor ERG, a protein that controls gene expression. Until now, the functional significance of this event has been poorly understood.

Studying prostate cells in transgenic mice, Vasioukhin, Nelson and colleagues at the Hutchinson Center and the University of Washington found that up-regulation of ERG transcript initiates cancer growth. They found a similar effect in human prostate cells. They hypothesize that up-regulation of ERG in human prostate cancer activates cell-invasion programs, causing the displacement of basal cells by neoplastic epithelium, or cancerous tissue.

As such, they suggest that ERG should be considered as a target for prostate-cancer prevention or early therapeutic intervention.

Source: Fred Hutchinson Cancer Research Center

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