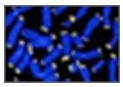
Telomerase activity aids tumor growth, PinX1 inhibits telomerase.

Printed from https://www.cancerquest.org/newsroom/2011/04/telomerase-activity-aids-tumor-growth-pinx1-inhibits-telomerase on 11/22/2026



Telomerase is critical for the development of most human cancers. Without this enzyme, chromosomes become progressively shorter each time the cell divides, and after a certain point, the chromosomes are too short to be reproduced successfully. At this point, the cell enters into a state of non-growth, called senescence. Researchers at Harvard University have been working to uncover the mechanism linking telomerase activity to cancer, and in a recent publication, they identified the important role of the PinX1 gene.

PinX1 is a natural telomerase inhibitor, and in most human breast cancers, it's expression is inhibited. Because PinX1 suppresses telomerase activity, decreased PinX1 expression leads to increased telomerase activity. This prevents cells from reaching senescence, and allows them to keep reproducing. These findings suggest that altering PinX1 activity may be an effective approach to treating cancers over expressing telomerase.

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