

New prognostic marker for human breast cancer

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Elevated levels of GLI1 (glioma-associated oncogene homolog 1) protein in human breast cancer are associated with unfavorable prognosis and progressive stages of disease. Researchers writing in the open access journal *BMC Cancer* found increased expression of GLI1 in samples taken from more advanced and less survivable tumors.

Edgar Dahl led a team of researchers from RWTH Aachen's University Hospital who sought to evaluate whether GLI1 could represent a new prognostic marker in [breast cancer](#) treatment. He said, "GLI1, a mediator of the so-called 'hedgehog' signaling pathway, has previously been implicated in the development of different human tumor entities. We've found a positive, significant association between overexpression of GLI1 and unfavorable overall survival outcome in human breast cancer. This association has not been reported anywhere else so far, but similar tendencies were recently shown in human [esophageal cancer](#)".

The researchers studied samples of 229 invasive breast carcinomas taken from patients at the hospital, along with samples of normal human [breast tissue](#) for comparison. As well as poor survival, overexpression of the GLI1 protein was associated with tumor stage and lymph node status of the breast tumors analyzed. Dahl said, "Taken together, these results support a role of GLI1 as a new prognostic [biomarker](#) in breast cancer. Future studies will determine whether GLI1 can be successfully included into multimarker panels for early [cancer detection](#) or molecular subtyping of breast cancer. This could support personalized breast cancer medicine".

More information: Expression of the glioma-associated oncogene homolog (GLI) 1 in human breast cancer is associated with unfavourable overall survival; Anette ten Haaf, Nuran Bektas, Sonja von Serenyi, Inge Losen, Elfriede C Arweiler, Arndt Hartmann, Ruth Knuchel and Edgar Dahl; *BMC Cancer* (in press), www.biomedcentral.com/bmccancer/

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