

Title (en)  
GLYPICANS FOR THE DETECTION AND TREATMENT OF HUMAN CARCINOMA

Title (de)  
GLYPICANE ZUR DETEKTION UND BEHANDLUNG HUMANER KARZINOME

Title (fr)  
GLYPICANES SERVANT A DETECTER ET A TRAITER LE CARCINOME HUMAIN

Publication  
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Application  
**EP 99954963 A 19991015**

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Abstract (en)  
[origin: WO0023109A1] Glycosylphosphatidylinositol- (GPI-) anchored HSPG glypican-1 is strongly expressed in human breast and pancreatic cancer - both by the cancer cells and in the case of pancreatic cancer the adjacent fibroblasts - whereas expression of glypican-1 is low in the normal pancreas and in chronic pancreatitis. Treatment of two pancreatic cancer cell lines, which express glypican-1, with the enzyme phosphoinositide-specific phospholipase-C (PI-PLC) abrogated their mitogenic responses to two heparin-binding growth factors: fibroblast growth factor-2 (FGF2) and heparin-binding EGF-like growth factor (HB-EGF). Treatment of MDA-MB-231 and MDA-MB-468 breast cancer cells with PI-PLC abrogates the mitogenic response to two heparin-binding growth factors, heparin-binding epidermal growth factor-like growth factor (HB-EGF) and fibroblast growth factor-2 (FGF-2). Syndecan-1 is also expressed at high levels in breast cancer tissues as well as breast cancer cells by comparison with breast normal tissues. Temporary or permanent transfection of a glypican-1 antisense construct attenuated glypican-1 protein levels and the mitogenic response to FGF2 and HB-EGF. Glypican can be used to detect the carcinoma in vitro and therapeutics that either bind to (e.g., antibodies or drugs), remove (e.g., enzymes) or prevent the expression (e.g., antisense constructs) of surface of the extracellular domain of glypican-1 are effective in retarding the growth of glypican-responsive carcinomas.

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