
Clinically relevant differential PDGFRα and -β expression in stroma of human breast DCIS.

**Background:**
- The introduction of mammography has led to a four- to sevenfold increase in the detection of DCIS.
- Although the majority of patients would not recur after surgical removal of the DCIS lesion, most patients receive radiotherapy.
- Novel biomarkers predicting recurrence are therefore warranted to prevent overtreatment.

- The concept of "tumor-stroma co-evolution" emphasizes an important role of tumor extrinsic factors derived from the microenvironment, which, in symbiosis with genetic alterations, drive tumor progression.
- Nevertheless, the mechanisms controlling the transition from in situ to invasive carcinoma including early dissemination still remain unclear.

**Notch-dependent epithelial/stromal signaling induces a prognostic fibroblast-subset in breast DCIS**

- Kaplan-Meier graphs, showing relationships between PDGFR status and the risk for local recurrence or metastasis in DCIS. Graphs also present Hazard Ratios (HR), including confidence intervals and P-values, as determined by univariate Cox-regression analyses and Wald test as well as P-values from Log Rank tests. Corresponding tables indicate the number of events (defined as local recurrence or metastasis) per group.

**Stromal PDGFRα is lost during tumor progression:**
- Immunoblots with quantification of PDGFR in HMF in co-cultures with MCF10DCIS. Cells were modified for Notch signaling components via CRISPR/Cas9. mRNA levels were measured for HES1 and HEY1. P-values (** < 0.01) are based on ANOVA with Bonferroni post hoc test.

**Conclusions:**
- DCIS patients with PDGFRαlowPDRGFBβhigh expression in stroma cells have a significant lower risk to develop local recurrences.
- We could identify the molecular mechanisms mediating loss of stromal PDGFRα expression in DCIS.

**Gene expression changes in fibroblasts after co-culture with MCF10DCIS:**
- Kaplan-Meier graphs, showing relationships between PDGFR status and the risk for local recurrence or metastasis in DCIS. Graphs also present Hazard Ratios (HR), including confidence intervals and P-values, as determined by univariate Cox-regression analyses and Wald test as well as P-values from Log Rank tests. Corresponding tables indicate the number of events (defined as local recurrence or metastasis) per group.

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