

An interesting perspective on a well-studied pathway: does type III TGF- β receptor have therapeutic potential?

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Abstract The type III TGF- β receptor has potential therapeutic and prognostic potential in breast cancer.

Keywords TGF- β receptor · Ectodomain · Breast cancer · Prognosis · Therapeutic

The finding highlighted by the work of Pang et al. (2014) supports and extends work done at the RNA level showing that lower expression of the type III TGF- β receptor (TBR3), or β -glycan predicts a poor outcome and increased invasiveness of breast cancer. TBR3 acts as a co-receptor for TGF β isoforms. Although at first seemingly counter-intuitive, a

possible clarifying mechanism for this observation was suggested in the discussion that TBR3 can undergo ectodomain shedding, and thereby act as a decoy receptor. This notion is interesting and suggests that development of a TBR3 mimetic could possibly be considered as a breast cancer therapeutic.

References

- Pang JC, Virani NK, Kidwell KM (2014) Characterization of type III TGF- β receptor expression in invasive breast carcinomas: a potential new marker and target for triple negative breast cancer. *J Cell Commun Signal* 8:211–218

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