

## Molecular oncogenesis of prostate adenocarcinoma: role of the human epidermal growth factor receptor 2 (HER-2/*neu*)

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### ABSTRACT

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The potential mechanisms involving the genesis and growth of androgen-independent prostate cancer include super-expression of the androgen receptor (AR), in an attempt to compensate for the low androgenic plasma levels and mutations of this specific receptor, which could determine resistance to anti-androgenic therapy. However, most advanced prostate tumors have no mutations or amplifications of the AR, suggesting a potential role of non-androgenic growth factors, including epidermal growth factor (EGF), transforming growth factor  $\alpha$ , insulin-like growth factor (IGF-1) and fibroblast growth factor. More specifically, these factors, and their receptors like EGFR (HER-1) and HER-2/*neu*, through paracrine and autocrine mechanisms, may contribute to the proliferation and growth of prostate cancer. Free full text available at [www.tumorionline.it](http://www.tumorionline.it)

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