Author's response to reviews

Title: Cross-talk between alpha1D-adrenoceptors and transient receptor potential vanilloid type 1 triggers prostate cancer cell proliferation.

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Dear editor,

we wish to submit the manuscript entitled “Cross-talk between α1D-adrenoceptors and transient receptor potential vanilloid type 1 triggers prostate cancer cell proliferation” by Maria Beatrice Morelli, Consuelo Amantini, Massimo Nabissi, Sonia Liberati, Claudio Cardinali, Valerio Farfariello, Wilma Quaglia, Alessandro Piergentili, Alessandro Bonifazi, Fabio Del Bello, Matteo Santoni, Alessandra Filosa, Angela Gismondi and Giorgio Santoni in BMC Cancer. Our findings represent an important contribute on the knowledge of the mechanism/s responsible for prostate cancer (PCa) cell growth and progression opening a new view in the therapeutic approach of advanced PCa. In this regard, we demonstrate for the first time, the expression of α1D-ARs in high-grade PCa patients and more interesting, that α1D-ARs and TRPV1 are co-expressed in PCa tissues and cell lines. In addition we show that these receptors not only have a spatial co-localization in PCa cells, but also display a cooperative signal activity in the regulation of noradrenaline-induced PCa proliferation. Finally we also reveal that a marked down-regulation and/or loss of α1D-ARs and TRPV1 expression is found in PCa tissues from patients treated in adjuvant with anti-androgenic drug (bicalutamide), strongly suggesting for a role of these two receptors in androgen-resistance mechanisms.

Collectively, our data support the use in PCa treatment of a “dual target therapy” directed against the adrenergic and vanilloid receptors.

With best regards,

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