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Experimental treatment of prostate cancer by suppressing the biological activity of FABP5

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It was demonstrated that Fatty Acid-Binding Protein 5 (FABP5) is a tumorigenicity promoting factor in prostatic cancer cells. Although Knockdown of FABP5 gene with RNAi in highly malignant prostate cancer cells can effectively suppress tumorigenicity and metastasis, the effective inhibitors were difficult to get. We have recently obtained a chemical inhibitor and a bio-inhibitor to suppress the biological activity of FABP5 and used them to treat prostate cancer in nude mouse model. Our work showed that the chemical inhibitor can almost completely deprive of the binding ability of FABP5 to the fatty acids and the bio-inhibitor can effectively prevent the fatty acids to activate its down-stream genes. Results of bio-assays showed that both inhibitors can significantly suppress the cancer cell proliferation, immigration, invasiveness and colony formation ability *in vitro*. Experiments in nude mouse showed that tumor size were significantly reduced in mice treated with both inhibitors especially the group treated with bio-inhibitor. Moreover, mice treated with combination of two inhibitors can greatly enhance the suppression effect in tumorigenicity. These results suggest that suppression the biological function of FABP5 can effectively suppress tumorigenicity of the highly malignant prostate cancer cells *in vitro* and vivo.

Biography

Waseem Al-Jameel is currently a PhD student in Molecular and Clinical Cancer Medicine Department, University of Liverpool, UK. He has one publication as co-author in a paper published in *Oncotarget*.

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