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Fibroblast Activation Protein α and Its Role in Cancer with a Focus on Breast Carcinoma: Review

M. Dimitrova[1], I. Iliev[1], V. Pavlova[1], V. Mitev[2], I. Ivanov[2]

[1]*Institute of Experimental Morphology, Pathology and Anthropology with Museum, Bulgarian Academy of Sciences, Sofia*
[2]*Department of Medical Chemistry and Biochemistry, Medical University of Sofia, Sofia, Bulgaria*

Fibroblast activation protein α (FAP-α) is a plasma membrane serine proteinase belonging to the S9b family of post-proline cleaving proteases. The enzyme is generally missing in normal tissues of adult humans and mammals but is up-regulated in the reactive stromal fibroblasts in tumors of epithelial origin and many types of sarcomas. For that reason, at present FAP-α is considered as an important marker molecule in oncology. However, the relationship between elevated enzyme activity/expression and prognosis is not always conclusive. Thus, in breast cancer, the connection between higher expression levels of FAP-α and prognosis varies from better to very poor in different studies. Obviously, despite the extensive studies by many research teams all over the world, the enzyme role in cancer is not elucidated yet. The aim of the present mini-review is to summarize the existing data about the role of FAP-α in cancer by focusing on its involvement in breast cancer.

Key words: fibroblast activation protein α, breast cancer, enzyme marker, Ehrlich ascites carcinoma, *in vivo* model.