



## HSP70 as a Diagnostic and Prognostic Marker in Egyptian Women with Breast Cancer.

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### Abstract

Heat shock protein 70 (HSP70) may be a significant cellular stress response protein that has intrinsic and extrinsic pathways to guard cells against apoptosis. It's one among the foremost induced proteins in cancer cells. The aim of this study is to research the many role of the HSP70 expression in Egyptian patients with carcinoma (BC) and its potential to be as a diagnostic and prognostic marker. **Materials and Methods:** HSP70 was examined in 155 cases during this prospective study; patients were subdivided into 3 groups: 60 patients with malignant metastatic disease, 60 patients with malignant non-metastatic disease, and 35 patients with benign lesions as control. HSP70 expression was detected using enzyme-linked immunosorbent assay (ELISA) and immunohistochemistry (IHC). **Results:** Most cases of carcinoma expressed HSP70 in both serum (98.3%) and tumour tissue (90%). a robust direct correlation was found between HSP70 IHC and ELISA ( $r = 0.811$ ). The mean HSP70 levels, as detected in both patients' serum by ELISA and tumour tissue by IHC, was significantly higher in patients with BC than in benign cases ( $P = .001$ ). HSP70 was significantly higher in patients with metastatic BC than in those with non-metastatic BC ( $P = .001$ ). HSP70 showed direct correlation with tumour size (pT stage) and number of lymph gland metastases ( $P = .001$ ). **Conclusion:** HSP70 is over-expressed in patients with metastatic and non-metastatic BC than in benign cases. A high level of HSP70 either in patient's serum or in tumour tissue correlated significantly with advanced disease in patients with BC. This present study suggests that HSP70 can function as a BC biomarker for early screening, diagnosis, and follow-up.

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### Publications

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