9 - Molecular Cell Biology

PO020 - (24014) - EXPRESSION OF GLUTATHIONE PEROXIDASE 5 (GPX5) IN NORMAL HUMAN COLON AND COLORECTAL CANCER: AN IMMUNOHISTOCHEMICAL STUDY

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Glutathione peroxidase 5 (GPx5) is an epididymis-specific antioxidant enzyme encoded by the GPx5 gene on chromosome 6p21.32. Although it lacks the catalytic selenocysteine residue characteristic of other glutathione peroxidases, GPx5 retains antioxidant activity and plays a protective role against reactive oxygen species (ROS), particularly in the context of sperm integrity and viability. Recent evidence suggests that oxidative stress is an important contributor to the pathogenesis of colorectal cancer (CRC), a leading cause of cancer-related mortality worldwide. The aim of this study was to investigate the expression of GPx5 in normal human colon tissue and colorectal cancer using immunohistochemistry. In healthy colon samples, GPx5 was consistently expressed with strong positivity in the cylindrical epithelial cells lining the colonic crypts and in the basal crypt cells. In contrast, GPx5 expression in CRC tissues was heterogeneous. While many tumor samples showed GPx5 positivity in atypical cylindrical epithelial cells replacing goblet cells, others showed a complete absence of GPx5 staining. These findings suggest that GPx5 may contribute to the maintenance of redox homeostasis in normal colonic epithelium. Its variable expression in colorectal cancer suggests a potential role in tumor heterogeneity and disease progression. Further research is warranted to elucidate whether GPx5 expression patterns may serve as a prognostic marker or therapeutic target in CRC.

Palavras-chave : GPx5, colorectal cancer, oxidative stress