

**B9** Polyamines and colon cancer

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In colon cancer, the activities of polyamine-synthesising enzymes and polyamine content are increased three-to-four fold over that found in the equivalent normal colonic mucosa, and polyamines have even been attributed as markers of neoplastic proliferation in the colon. Furthermore and in contrast to all other cell systems in the body, normal and neoplastic cells in the colon are exposed to high concentrations of putrescine from the lumen, synthesised by colonic microflora. While such a high polyamine supply may be of benefit in non-neoplastic colonic mucosal growth, the role of luminal polyamines in colon cancer is of a clear concern. Luminal polyamines are readily taken up by neoplastic colonocytes, they are utilised in full to support neoplastic growth, and their uptake is strongly up-regulated by the mitogens known to play an important role in colonic carcinogenesis. Inhibition of polyamine synthesis and their uptake, impaired utilisation of exogenous polyamines, and enhanced catabolism of polyamines in neoplastic colonocytes are therefore logical approaches in the chemoprevention of colorectal cancer.