The Role of Cystathionine Beta Synthase in Ovarian Cancer Pathogenesis

ABSTRACT: Ovarian Cancer (OvCa) is the fifth leading cause of cancer-related death in women and the deadliest gynecologic malignancy. The hydrogen sulfide (H2S)-producing enzyme, cystathionine beta synthase (CBS), has been reported to be significantly upregulated in OvCa and contributes to OvCa progression. Moreover, dysregulated cellular metabolism and bioenergetics are key hallmarks of transformed cells. The goal of the present study is to expand on the role of CBS in the progression OvCa by demonstrating its role in maintaining the stability of two proteins responsible for promoting mitochondria fusion and lipogenesis: mitofusin 2 (MFN2) and specificity protein 1 (SP1) respectively. Taken together, the data presented in this thesis supports the notion that CBS is a viable therapeutic target for the treatment of OvCa.