CAGE (cancer-associated gene protein), also known as DEAD box protein 53 (DDX53) or DEAD box protein CAGE, belongs to the DEAD box helicase family. It contains one helicase ATP-binding domain, one helicase C-terminal domain and one KH domain. CAGE localizes to the nucleus and, in normal adult tissues, is exclusively expressed in testis but it has also been found in a wide variety of cancer tissues and cell lines. Overexpression of CAGE leads to the activation of FAK, ERK and p38 MAPK along with a reduction in reactive oxygen species (ROS). It is also responsible for inducing catalase activity and therefore enhancing cell motility. This suggests that CAGE may enhance the migration of cancer cells. In addition, hypomethylation of the CAGE promoter region is associated with tumor progression and may serve as a valuable marker in cancer diagnosis.

REFERENCES


