

BORIS gene mutation and expression: Link to breast cancer progression

June 5 2023

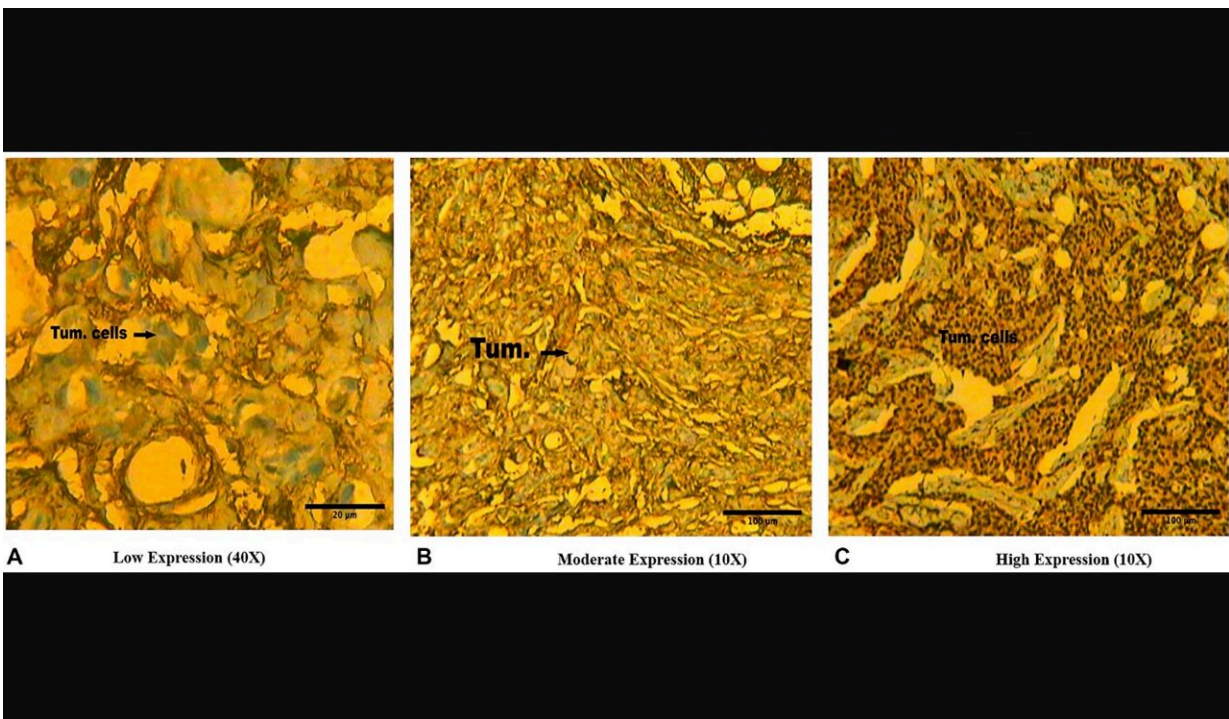


Figure 4: Representative immunohistochemical slides showing (A) Low protein expression (+) (scale bar 20 μm), (B) Moderate protein expression (++) (scale bar 100 μm), and (C) High protein expression (+++) (scale bar 100 μm) of BORIS protein in Indian female breast cancer cases. Credit: *Oncotarget* (2023). DOI: 10.18632/oncotarget.28442

A new research paper titled "Association of mutation and expression of the brother of the regulator of imprinted sites (BORIS) gene with breast

cancer progression" has been published in *Oncotarget*.

The brother of the regulator of imprinted sites (BORIS), 11 zinc-finger transcription factors, is a member of the cancer-testis antigen (CTA) family. It is mapped to chromosome number 20q13.2 and this region is genetically linked to the early onset of [breast cancer](#).

In the current study, researchers analyzed the correlation between BORIS mutations and the expression of the protein in breast cancer cases.

"The present study is to find out the mutations of BORIS genes in hot spot exons by PCR-SSCP and by automated DNA sequencing in breast cancer tissue samples along with adjacent normal samples," the researchers explain.

The team carried out a population-based study including a total of 155 breast cancer tissue samples and an equal number of normal adjacent tissues from Indian female breast [cancer](#) patients. Mutations of the BORIS gene were detected by polymerase chain reaction-single standard confirmation polymorphisms (PCR-SSCP), and automated DNA sequencing by immunohistochemistry for BORIS protein expression were performed. The observed findings were correlated with several clinicopathological parameters to find out the clinical relevance of associations.

The researchers observe, "The BORIS mutations and high protein expression occur frequently in carcinoma of the breast, suggesting their association with the onset and progression of breast carcinoma. Further, the BORIS has the potential to be used as a biomarker."

More information: Mohammad Salman Akhtar et al, Association of mutation and expression of the brother of the regulator of imprinted

sites (BORIS) gene with breast cancer progression, *Oncotarget* (2023).
[DOI: 10.18632/oncotarget.28442](https://doi.org/10.18632/oncotarget.28442)

Provided by Impact Journals LLC

Citation: BORIS gene mutation and expression: Link to breast cancer progression (2023, June 5)
retrieved 9 May 2024 from
<https://medicalxpress.com/news/2023-06-boris-gene-mutation-link-breast.html>

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