



UNIVERSITÀ  
DI TRENTO

Dipartimento di  
Biologia Cellulare, Computazionale e Integrata - CIBIO

# 12 DECEMBER

2.30 P.M.

ROOM A206 - POVO 1

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## ● ● FROM CYTOKINESIS FAILURE TO TARGETABLE ● ● VULNERABILITIES: AN UNEXPECTED MEMBRANE- ● ● DEFINED PATHWAY IN TUMOR EVOLUTION

Cancer cells frequently exploit whole-genome doubling to **increase genomic diversity and adaptive potential**. We have identified a membrane-based mechanism that **safeguards genome integrity** by establishing a confined lipid domain at the cytokinetic bridge. When this compartment is perturbed, cells undergo furrow destabilization and refusion, generating tetraploid progeny that rely on specific mitotic surveillance pathways for survival. In breast cancer models, reduced activity of this membrane-regulating pathway accelerates tumor progression yet simultaneously creates an actionable vulnerability. Thus, membrane organization during cell division emerges as both **a safeguard against genome instability and a determinant of targetable weaknesses in whole-genome-doubled cancer cells**.