RNA binding RING E3-ligase DZIP3/hRUL138 stabilizes Cyclin D1 to drive cell cycle and cancer progression

The DZIP3/hRUL138 is a poorly characterized RNA binding RING E3-ubiquitin ligase with functions in embryonic development. At DBT’s Institute of Life Sciences (IILS), Bhubaneswar, the group of Dr Santosh Chauhan has demonstrated that DZIP3 is a crucial driver of cancer cell growth, migration, and invasion.

In mice and zebrafish cancer models, DZIP3 promoted tumor growth and metastasis. DZIP3 was frequently overexpressed in several cancer types and its depletion resulted in defect in cell growth. A strong correlation of mRNA expression between DZIP3 and Cyclin D1 in different cancer types was observed. Furthermore, DZIP3 regulated several cell cycle proteins by modulating the Cyclin D1-E2F axes. The efforts of the group in this line demonstrates for the first time that DZIP3 employs a unique two-pronged mechanism in its stabilization of Cyclin D1 to drive cell cycle and cancer progression. The details of the work have been published in *Cancer Research*.  

**Link:** [https://cancerres.aacrjournals.org/content/early/2020/10/16/0008-5472.CAN-20-1871](https://cancerres.aacrjournals.org/content/early/2020/10/16/0008-5472.CAN-20-1871).

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