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Departmental Seminar

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Seminar Title : PIWI-RNA SENSITIZES TONGUE CANCER CELLS TO CISPLATIN  
Speaker : Anthony Lalruatfela ( Rollno : 5211s2009)  
Supervisor : Santosh Kumar #2787  
Venue : LS Seminar Hall  
Date and Time : 31 May 2024 (16:30)  
Abstract : The rise of tumor recurrence and incomplete remission in cancer treatment can primarily be attributed to gradual loss of drug sensitivity and/or the increase in chemoresistance. Consequently, this presents a serious threat to public health, potentially triggering a global crisis. Fortunately, the advent of advanced molecular techniques has unraveled small non-coding RNAs which are known regulators of oncogenic events to also prompt sensitivity towards chemo drugs. As such, our lab has deciphered piRNAs in different solid tumors and established their mechanisms of action in tumorigenesis including its role in chemoresistance. In the present study, we reported that piR-hsa-30937 sensitizes tongue cancer to cisplatin by regulating cell proliferation, apoptosis, and ROS production. Further, GAB2 is predicted as the target of piR-hsa-30937 whose expression drastically reduced upon transient overexpression of this piRNA. Moreover, cisplatin treatment increased the expression of piR-hsa-30937 several folds, the rationale of which is being investigated. Altogether, this study might pave way towards piRNA-target based therapeutics to wrestle chemoresistance in cancer.