DSV Seminars 2019

UNIVERSITÀ DEGLI STUDI DI TRIESTE

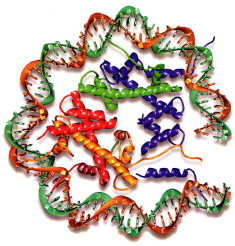
DIPARTIMENTO DI SCIENZE DELLA VITA

CIB FROM MAN TO CELL FOR MAN

PhD Program in Molecular Biomedicine

28th February 2019 – 12:00

Seminar Lecture Hall, ICGEB – Area Science Park



Prof. Dr. Anton Wutz

ETH Zurich
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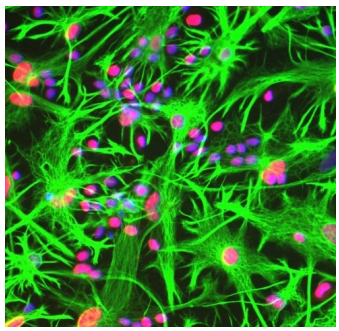
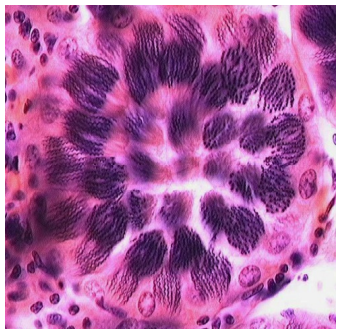
Switzerland



Haploid embryonic stem cells as a tool for discovery of new regulators in X inactivation and Hedgehog signaling



In recent years haploid embryonic stem cells have become available for a number of mammalian species. Their surprising differentiation potential has motivated forward genetic screens in developmental pathways by taking advantage of hemizygous mutations. Screening in haploid cells is not limited to dominant mutations and does not require technology for generating homozygous mutations. Here I will discuss examples for the application of mouse haploid embryonic stem cells for genetic discovery. Firstly, I will discuss a screen for identifying silencing factors for the non-coding Xist RNA in X chromosome inactivation. The second example illustrates the discovery of new modulators of Hedgehog signaling. Considerations for future development of screens in mammalian cells and the opportunities of haploid cell systems will be discussed based on experience with these two screens.