CIBIO EXTERNAL seminar

16 APRIL AT 2 P.M.
ROOM A 206 | POVO 1

MODULATION OF DOUBLE STRAND BREAKS REPAIR TO PROMOTE CAS9 AND PEN DEPENDENT DNA INSERTIONS

MARCELLO MARESCA

SENIOR PRINCIPAL SCIENTIST ASTRAZENECA

The CRISPR-Cas9 system is a powerful tool for genome engineering, but low efficiency of targeted gene integration is a significant challenge for therapeutic applications, especially in non-dividing cells. We developed new approaches to enhance the efficiency of targeted integrations in mammalian cells. This includes 2HDR a method using a mix of small molecule inhibitors to facilitate gene insertion in dividing cells, and PEn/2iPEn employing an RT/DNA polymerase-driven strategy to promote templated insertions via NHEJ-dependent and NHEJ-independent pathway. The use of the specified DNA repair inhibitors, combined with our newly developed nuclease, PsCas9, reduces the potential for unwanted on-target and off-target effects.

DEPARTMENT OF CELLULAR, COMPUTATIONAL AND INTEGRATIVE BIOLOGY - CIBIO
VIA SOMMARIVE, 9
38123 - POVO (TN)
COMUNICAZIONE.CIBIO@UNITN.IT

UNIVERSITÀ DI TRENTO
Department of Cellular, Computational and Integrative Biology - CIBIO