

HONG KONG RNA CLUB

Seminar

香港城市大學
City University of Hong Kong



21 Jan 2019 (Mon) / 11:00-12:00pm

B4-701, Yeung Kin Man Acad. Building (AC1)

City University of Hong Kong

Guest Speaker:

Prof. Zheng Tan
Institute of Zoology
Chinese Academy of Sciences

*Transcriptional formation of
DNA:RNA hybrid G-quadruplexes
and regulation on transcription in return*



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Transcriptional formation of DNA:RNA hybrid G-quadruplexes and regulation on transcription in return

Professor Zheng Tan

Institute of Zoology, Chinese Academy of Sciences



Abstract

Guanine-rich nucleic acids can form a four-stranded structure termed as G-quadruplex. Since transcription produces RNA transcripts that have an identical sequence as the DNA template being transcribed, guanine-rich motifs in both the RNA transcripts and the transcribed DNA can jointly form DNA:RNA hybrid G-quadruplex structures. In proportion to transcription activity, the formation of such hybrid G-quadruplexes suppresses transcription in return, creating a negative feedback control to the transcription. Comparing to other regulatory pathways, the regulation by the formation of G-quadruplexes is intrinsic, faster, and more cost-effective.