セミナーのお知らせ

"Novel telomerase inhibitors"

Professor, Vinay Tergaonkar

IMCB, Singapore 138673

Date: Oct 2th Monday
Time: 4pm to 5 pm
Location: Biken Hall, 1st Floor, Main building, Research Institute for MicrobialDiseases (微研ホール、微生物病研究所 本館 1F)

While telomerase is recognized as a key target in cancer, telomerase inhibitors despite being good drugs are unsuccessful due to their side effects on stem cells. Unlike in stem cells, levels of telomerase catalytic subunit TERT are limiting in reconstituting telomerase activity in normal somatic cells. However, in 90-95 % of human cancers, TERT is transcriptionally reactivated and telomerase activity is reconstituted which is necessary for cancer progression. If TERT transcriptional reactivation in cancer cells can be blocked, telomerase reconstitution in cancers can be prevented. How *TERT* promoter is reactivated in cancers has been a fundamental unanswered question in cancer biology. The recent discovery of 2 prevalent somatic mutations - C250T and C228T in the *TERT* promoter in various cancers including 85% of melanomas and glioblastomas has provided insight into the plausible mechanism of telomerase reactivation in cancers. We have identified mechanisms by which mutant *TERT* promoters are reactivated. I will describe these mechanisms of *TERT* promoter firing and propose how we can selectively target *TERT* reactivation and hence telomerase activity in mutant cancer cells.

参考文献

1. Long-Range Chromatin Interactions Drive Mutant TERT Promoter Activation. **Cancer Discovery.** 2016 Nov;6(11):1276-1291.
2. Telomerase reverse transcriptase promotes cancer cell proliferation by augmenting tRNA expression. **Journal of Clinical Investigation.** 2016 Oct 3;126(10):4045-4060. doi: 10.1172/JCI86042.
3. Non-canonical NF-κB signalling and ETS1/2 cooperatively drive C250T mutant TERT promoter activation. **Nature Cell Biology.** 2015 Oct;17(10):1327-38. doi: 10.1038/ncb3240.
4. Telomerase directly regulates NF-κB-dependent transcription. **Nature Cell Biology.** 2012 Dec;14(12):1270-81. doi: 10.1038/ncb2621

連絡先： 遺伝子機能解析分野
伊川正人
Ikawa*biken.osaka-u.ac.jp
06-6879-8373
*を@に変更して送信してください。

※医学系研究科単位認定の対象となるセミナーです。