



第264回つくば分子生命科学セミナー

TSUKUBA MOLECULAR LIFE SCIENCE SEMINAR

演題: Switching phenotypes, a new model for cancer progression

演者: Dr. Keith Hoek

Department of Dermatology, University Hospital of Zurich, Switzerland

日時: 2008年5月13日(火) 14:00 – 15:00

会場: 筑波大学医学学系棟2階会議室272

要旨: Genome-wide expression analyses of melanoma cell line libraries have identified two transcription signatures which are predicted to correspond with proliferation and invasion. Cell lines with proliferative or invasive signatures were injected into the flanks of immunocompromised mice and allowed to form tumors. Tumor growth rates were monitored and immunohistochemistry was used to follow signature switching and in vivo proliferation, respectively. We found that tumors grew faster from cells with a proliferative signature than those with an invasive signature. Critically, all tumors displayed immunohistochemical evidence for both proliferative and invasive signatures, in specific intralesional regions, regardless of which line was used for seeding. Staining of human cutaneous metastases showed similar region-specific staining patterns, indicating that invasive or proliferative states are determined by intralesional location. Finally, we used siRNA to knock down a factor critical to the proliferative signature and show that these cells subsequently take on a phenotype typical of invasive signature cells. These data indicate that melanoma cells undergo transcriptional signature switching in vivo which is likely regulated by local microenvironmental conditions.

Dr. Keith Hoek's research is concerned with the molecular biology of melanoma cells using microarray experiments. His research description can be found at the following web address. <http://www.haskell.org:80/keith/work.html>

連絡先: 人間総合科学研究科・若手イニシアティブ Damien Hall TEL: 029-853-8008

Email: damienhall@md.tsukuba.ac.jp

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