京都産業大学 総合生命科学部

バイオフォーラム

最先端の生命科学研究に触れてみませんか

バイオフォーラム　4月16日（木）　開催

【開場】　14：30～

【開演】　15：00～16：00

【場所】　京都産業大学　15号館1階15102セミナー室

【講師】　**Dr. Laurent Désaubry,** CNRS Research Director

CNRS-Strasbourg University, France---Website: http://desaubry.u-strasbg.fr

【演題】　**Development of novel anticancer agents that target prohibitins and the translation initiation factor eIF4a**

Flavaglines are a family of anticancer natural products that relieve the resistance to cancer chemotherapies and display a strong cytotoxicity that is specific to cancer cells in a low nanomolar range. Not only flavaglines are not toxic to non-cancer cells, but they protect normal cells from various stresses. Thus, we demonstrated for the first time that these compounds protect the heart and neurons from the adverse effects of cancer chemotherapies involving anthracyclines and cisplatin. We also identified the scaffold proteins prohibitins-1 and -2 (PHB1/2) as the molecular targets of flavaglines. We demonstrated that the binding of flavaglines to PHBs prevents interaction between PHBs and CRaf and, thereby, inhibits CRaf activation and subsequently CRaf-MEK-ERK signaling, which is critical to survival and proliferation of cancer cells. Flavaglines also directly inhibit another emerging target in oncology, the translation initiation factor eIF4a. *In vivo* data indicate that flavaglines could greatly improve the treatment of chemoresistant metastatic melanoma.

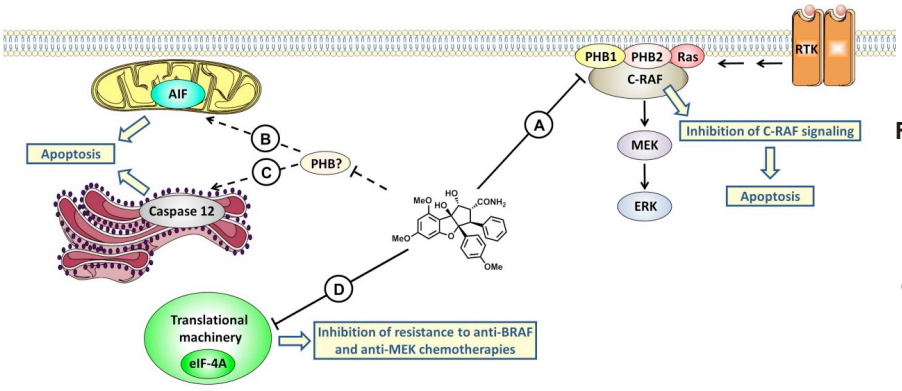

Figure. Anticancer mechanisms of flavaglines. (**A**) Inhibition of the activation of CRAF by Ras. (**B**,**C**) Translocation of AIF and caspase-12 to induce apoptosis. (**D**) Inhibition of eIF4A overcoming resistance to therapies targeting BRAF or MEK.

□お問合せ□

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□交　　通□

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