

# 神楽月 (Kannazuki) Seminar

Date: October 6 (Tue), 2015 15:00~

Place: Institute for Protein Research (4F Seminar Room), Osaka University

## *Cell signaling and oncogenesis in the absence of growth factor stimulation*



Japanese title is 「台之景」, meaning 'the scene of the hill'

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#### Abstract

FGFR2-expressing cancer cells with low concentrations of the adaptor protein Grb2 show high prevalence for metastatic outcome. In non-stimulated cells the SH3 domain (and not the SH2 domain(s)) of Plc $\gamma$ 1 directly competes for a binding site at the very C-terminus of FGFR2 with the C-terminal SH3 domain of Grb2. Reduction of Grb2 concentration permits access by Plc $\gamma$ 1 to the receptor. Recruitment of Plc $\gamma$ 1 in this way is sufficient to up-regulate phospholipase activity. This results in increased cell motility and promotion of cell invasive behavior in the absence of extracellular receptor stimulation. Therefore metastatic outcome can be dictated by the constitutive competition between Grb2 and Plc $\gamma$ 1 for the phosphorylation-independent binding site on FGFR2.

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