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Yokonolide B, a novel inhibitor of auxin action, blocks degradation of AUX/IAA factors.

Hayashi K, Jones AM, Ogino K, Yamazoe A, Oono Y, Inoguchi M, Kondo H, Nozaki H

J Biol Chem 2003 Jun 27 **278**(26):23797-806 [[abstract on PubMed](#)][[related articles](#)] [[order article](#)]**Selected by** | Judy Callis / Brian Forde

Evaluated 1 May 2003

Relevant Sections

Faculty Comments**Faculty Member****Judy Callis**University of California,
Davis, United States of
America

PLANT BIOLOGY

New Finding

Comments

How plants sense and respond to the growth regulator auxin with changes in transcription and cell expansion is not completely understood. This paper discovers that the effects of a fungal product, yokonolide B, are specific for auxin responses. Previously, it has been shown that one of the earliest steps in modulating transcription involves ubiquitin pathway-dependent degradation of Aux/IAA proteins and one of the earliest in cell expansion is mediated by auxin binding protein (ABP). Here, the authors demonstrate that yokonolide B functions upstream of ubiquitin pathway components TIR1 and AXR1 to affect Aux/IAA proteolysis and also affects ABP-mediated cell expansion.

Evaluated 1 May 2003

[cite this evaluation](#)**Brian Forde**Lancaster University,
United Kingdom
PLANT BIOLOGY

New Finding

Tech Advance

This paper reports the characterisation of a novel compound of bacterial origin that may be of considerable value as a bio-probe for the dissection of auxin signalling pathways in plants. Yokonolide B (YkB), from *Streptomyces diastatochromogenes*, was identified in a screen for inhibitors of auxin-induced gene expression. YkB appears to act by specifically inhibiting a key step in auxin signalling, the degradation of Aux/IAA proteins.

Evaluated 1 May 2003

[cite this evaluation](#)**Faculty Comments****How to cite the Faculty of 1000 Biology evaluation(s) for this paper****1) To cite all the evaluations for this article:**Faculty of 1000 Biology: evaluations for Hayashi K et al *J Biol Chem* 2003 Jun 27 278 (26) :23797-806
<http://www.f1000biology.com/article/12690101/evaluation>**2) To cite an evaluation by a specific Faculty member:**Judy Callis: Faculty of 1000 Biology, 1 May 2003 <http://www.f1000biology.com/article/12690101/evaluation>Brian Forde: Faculty of 1000 Biology, 1 May 2003 <http://www.f1000biology.com/article/12690101/evaluation>

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