

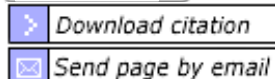
Welcome University of California, Irvine

[Home](#)
[Feedback](#)
[Support](#)
[Log on / Register](#)
21-
Apr-
2008

My F1000 Biology | Browse the Faculties | Top 10s | Advanced Search | My Details | About | Faculty Member List

F1000 Factor **6.4**

EndNote



A translational block to HSPG synthesis permits BMP signaling in the early Drosophila embryo.

Bornemann DJ, Park S, Phin S, Warrior R

Development 2008 Mar **135**(6):1039-47 [[abstract on PubMed](#)][[citations on Google Scholar](#)] [[related articles](#)] [[FREE full text](#)]**Selected by** | Norbert Perrimon / John Couchman

First evaluation 29 Feb 2008 | Latest evaluation 6 Mar 2008

[Relevant Sections](#)

Faculty Comments

Faculty Member

Norbert Perrimon

Harvard Medical School & Howard Hughes Medical Institute, United States of America

DEVELOPMENTAL BIOLOGY

New Finding

Comments

This paper solves the puzzling observation that heparan sulfate proteoglycans are not required for DPP/BMP signaling in early embryonic development but are required at other stages. The authors demonstrate that in early embryos glycoaminoglycan (GAG) synthesis does not occur because the mRNAs of at least two of the key GAG enzymes are not translated. Translationally blocking GAG synthesis at that stage is important as it allows the generation of the Dpp/BMP activity gradient that patterns the dorso-ventral axis.

Competing interests: None declared

Evaluated 29 Feb 2008

[How to cite this evaluation](#)

John Couchman

Imperial College London, United Kingdom
CELL BIOLOGY
 Hypothesis
 New Finding

Waiting for the right moment to let the proteoglycans loose. This paper demonstrates a remarkable translational control mechanism involving internal ribosome entry that regulates heparan sulfate synthesis. In the early Drosophila embryo, a Decapentaplegic gradient requires heparan sulfate absence. However, at three hours, heparan sulfate is needed in a hurry to set up Wingless and Hedgehog gradients -- hence the need for the necessary synthesis enzymes to be transcribed and ready to go.

Competing interests: None declared

Evaluated 6 Mar 2008

[How to 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 Bornemann DJ et al *Development* 2008 Mar 135 (6) :1039-47
<http://www.f1000biology.com/article/id/1103068/evaluation>

2) To cite an evaluation by a specific Faculty member:

Norbert Perrimon: Faculty of 1000 Biology, 29 Feb 2008 <http://www.f1000biology.com/article/id/1103068/evaluation>

John Couchman: Faculty of 1000 Biology, 6 Mar 2008 <http://www.f1000biology.com/article/id/1103068/evaluation>
