Pinning Down Cell Division?

With regard to the Research News article by Gretchen Vogel (12 Dec., p. 1883) about the purportedly essential human Pin1 protein analyzed by Yaffe *et al.* (*1*), we would like to make two points about priority of publication and functional genomics.

First, contrary to the statement that "Lu and Hunter first discovered Pin1 2 years ago," a member of this family was discovered in yeast nearly 10 years ago by Hanes *et al.* (*2*), who recognized its essential role in cell division and named it ESS1. Its protein-protein binding WW domain was documented by Bork and Sudol (*3*), and its peptidyl-prolyl *cis/trans* isomerase activity was inferred by Hani *et al.* (*4*). The existence of conserved metazoan homologs, named *Drosophila* and human *dodo*, was published by Maleszka *et al.* (*5*).

Second, the functional genomics issue was addressed by these authors (*5*), who showed the functional interchangeability of the yeast *ESS1* gene with the fly *dodo* gene in vivo, and who also unequivocally demonstrated that, in contrast to yeast, fly *dodo* is not essential to the organism under laboratory conditions. In the wake of these publications, Lu *et al.* (*6*) isolated and further characterized human dodo (Pin1) by virtue of its interaction with the NIMA cell-cycle kinase and described an essential function for it on the basis of antisense experiments in HeLa cells. However, HeLa cells are not a substitute for knockout, deletion, or misexpression experiments in developing organisms, and whether Pin1 is essential to vertebrates remains unresolved.

The challenging future issues revolve around the roles that different members of this gene family play in global cell division processes in many phyla. These require understanding of the different phenotypic end points that occur in different organisms, rather than the importance attached to the supposed essentiality of any single one of them.

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References

1. M. B. Yaffe *et al.*, *Science* **278**,1957 (1997).
2. S. D. Hanes, P. R. Shank, K. A. Bostian, *Yeast* **5**, 55 (1989).
3. P. Bork and M. Sudol, *Trends Biochem. Sci.* **19**, 531 (1994).
4. J. Hani, G. Stumpf, H. Domdey, *FEBS Lett.* **365**, 198 (1995).
5. R. Maleszka *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* **93**, 447 (1996).
6. K. P. Lu, S. D. Hanes, T. Hunter, *Nature* **380**, 544 (1996).

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Clinical Applications for Neural Noise?

The article "Mastering the nonlinear brain" by James Glanz (Research News, 19 Sept., p. 1758) makes an excellent contribution to general understanding of how scientists are extending nonlinear methods to study brain dynamics, particularly in epilepsy. While Glanz focuses on research done in the United States, several groups in Europe (Germany, Holland, and France) have also made important contributions.

Le Van Quyen *et al.* have shown that human epileptic data contains unstable periodicities (*1*). Our group has also shown how the temporal dynamics of an epileptic focus can be affected by simple cognitive