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Pin-ning down breast cancer

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Pin1, a member of a new family of phosphorylation-specific peptidyl-prolyl isomerases (PPIases), regulates mitosis and neuronal cell death in Alzheimer's disease. In the July 2 *EMBO Journal*, Wulf *et al.* propose a mechanism by which Pin1 may contribute to cell proliferation in breast cancer cells (*EMBO Journal* 2001, **20**:3459-3472). They found that Pin1 was overexpressed in breast cancer tissue and correlated with the tumour grade and with the level of cyclin D1 expression. Wulf *et al.* show that Pin1 activates the cyclin D1 promoter by binding to phosphorylated Ser63/73-Pro motifs in the c-Jun transcription factor and enhancing its transactivating function. In this way, Pin1 cooperates with oncogenic Ras to drive cyclin D1 expression and cell proliferation.

References

1. Sequence-specific and phosphorylation-dependent proline isomerization: a potential mitotic regulatory mechanism.
2. *EMBO Journal* , [<http://intl.emboj.org>]