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## Article

### 6 Proline cis-trans isomerization controls autoinhibition of a signaling protein.

Sarkar P, Reichman C, ..., Birge RB, Kalodimos CG  
Mol Cell. 2007 Feb 9; 25(3):413-26

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## Evaluations

Evaluated by [Dorothee Kern](#)

**This is an interesting paper because it provides evidence that proline cis/trans isomerization is used as a structural feature to modulate autoinhibition in the Crk adaptor protein.**

Crk, composed of two SH3 domains connected by a flexible linker, mediates formation of protein complexes to regulate signaling.

Crk exists in an equilibrium between 90% in a closed autoinhibited state with both SH3 domains bound to each other, and 10% in an open conformation with the polyproline binding sites of the SH3 domains available for binding. This conformational heterogeneity is caused by the cis/trans isomerization of Pro238 in the linker. The authors propose that binding of downstream partners of Crk bind to the 10% available open conformation.

Competing interests: None declared

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[Dorothee Kern](#)  
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25 Mar 2008

**Rating 6 Recommended**

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