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## Structural Basis for Signal-Sequence Recognition by the Translocase Motor SecA as Determined by NMR.

Gelis I, Bonvin AM, Keramisanou D, Koukaki M, Gouridis G, Karamanou S, Economou A, Kalodimos CG

*Cell* 2007 Nov 16 **131**(4): 756-69 [[abstract on PubMed](#)] [[citations on Google Scholar](#)]

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#### Faculty Member

##### Ian Collinson

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STRUCTURAL BIOLOGY

New Finding

#### Comments

**This paper is important because it describes the first structural arrangement of a signal sequence with a component of a protein translocation apparatus.** Protein targeting and translocation in bacteria can occur by a post-translation route, governed by a motor ATPase component (SecA) and a protein channel (SecYEG). The study employs NMR to determine a number of constraints to define the nature and consequences of the binding of a signal sequence peptide to SecA. The peptide forms an alpha helix upon binding and, furthermore, associates with only one of two states of SecA identified in solution. These results contribute important information necessary for our understanding of the ATP-driven mechanics of this reaction.

**Competing interests:** None declared

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