

T H E
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ON THE COVER



Aspartate kinase catalyzes the first step of the aspartate-derived essential amino acid pathway in plants and microorganisms. Mas-Droux et al. (pages 1681–1692) report on the dimeric structure of aspartate kinase (AK1) from *Arabidopsis* in complex with its two inhibitors, S-adenosylmethionine (SAM) and Lys. AK1 contains two ACT domains, which are small regulatory domains that play a key role in the cell as amino acid sensors. ACT domains are present in many protein families, including a large number of enzymes involved in amino acid biosynthesis in plants and microorganisms, enzymes involved in aromatic amino acid catabolism in animals, and transcriptional factors in bacteria. The structure provides new insights into the mechanism of allosteric inhibition and gives an explanation for the synergistic inhibition of the enzyme by SAM and Lys. The ribbon diagram of the enzyme was produced with Molscript, and the final image was rendered with POV-Ray (www.pov.org).

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[W](#) Online version contains Web-only data.

[O](#)A Open Access articles can be viewed online without a subscription.



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