domain of this protein and triggers the activation of the protein kinase moiety residing on the cytoplasmic side of the plasma membrane. The protein kinase then phosphorylates specific substrates, resulting in the production of second messengers, amplification of the signal and, ultimately, alteration or activation of cellular processes. This putative receptor is exceptional because it has sequence homology typical of the serine/threonine protein kinases. Most transmembrane protein kinases described so far are of the tyrosine class. The only other putative receptor serine kinase that we are aware of is the *daf-1* gene from the nematode *Caenorhabditis elegans*[4]. Although at this time there is no biochemical evidence that either the *daf-1* or the *ZmPK1* gene products are serine/threonine-specific protein kinases, the amino-acid sequence is strong evidence that these proteins represent a new type of signal-transducing molecule–receptor serine/threonine protein kinases. The identification of *ZmPK1* as a putative receptor protein kinase—to our knowledge the first transmembrane receptor identified in higher plants—provides a unique opportunity to gain fresh insights into signal transduction in higher plants. □

Received 2 March; accepted 10 May 1990.

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ACKNOWLEDGEMENTS. We thank L. Hall for technical assistance; V. Counihan for assistance with the figures; J. Forrester, University of Missouri DNA Core Facility, for synthesizing the oligonucleotides; and R. Briggs, Funk Seeds International, for providing B73 seeds. This work was supported by the University of Missouri Food for the 21st Century Program. R.Z. is a recipient of a University of Missouri Molecular Biology Program Postdoctoral Fellowship. The EMBL accession number for the sequence reported in this paper is X52384.

CORRECTION

Organization of microtubules in dendrites and axons is determined by a short hydrophobic zipper in microtubule-associated proteins MAP2 and tau

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Nature **342,** 498–505 (1989).

SEE the Scientific Correspondence article by S. A. Lewis and N. J. Cowan on page 674 of this issue. □