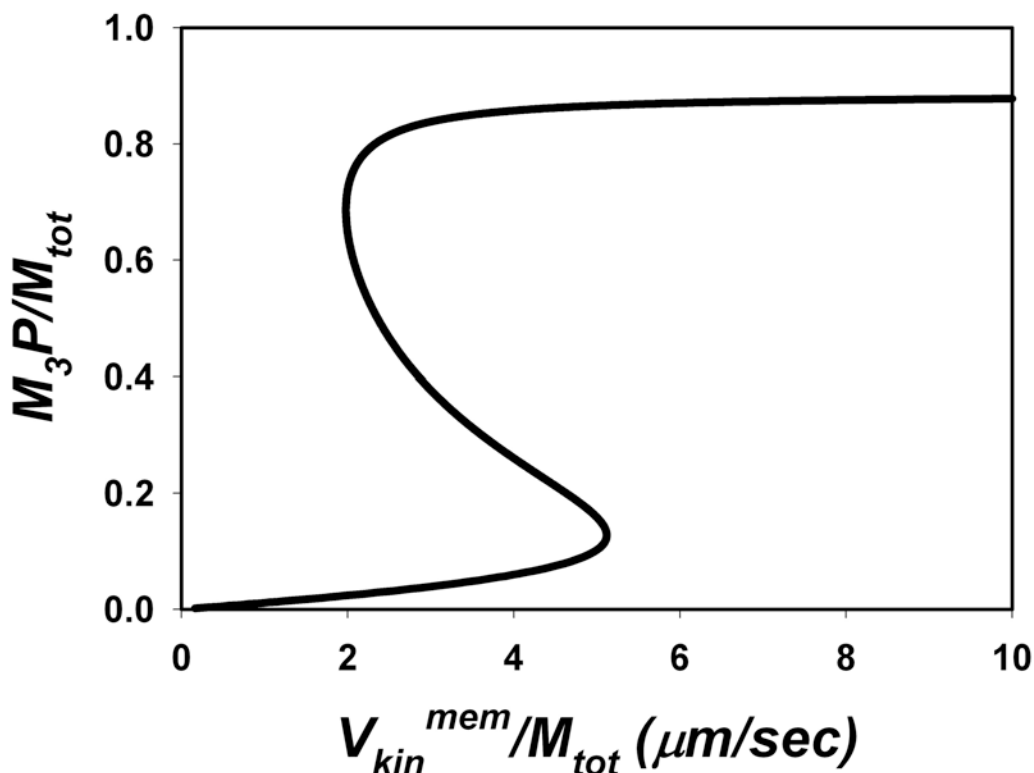


Supplementary information S7 (figure) | Propagation of phospho-protein waves through kinase cascades

Bistability in protein kinase/phosphatase cascades might give rise to travelling waves of phosphorylated kinase that transmit signals to distant targets¹. This figure shows one-dimensional bifurcation diagram of the dependence of the active form M_3P on the activity of the membrane-bound kinase, and supplementary information S8 (table) provides the rate expressions and kinetic parameters for a bistable cytoplasmic cascade.

References

1. Kholodenko, B. N. Four-dimensional organization of protein kinase signaling cascades: the roles of diffusion, endocytosis and molecular motors. *J. Exp. Biol.* **206**, 2073–2082 (2003).



Hysteresis and bistability in a three level phosphorylation cascade. The dependence of the phosphorylation kinase fraction at the terminal level on the input activity of the membrane-bound kinase. The rate expressions and kinetic parameters are given in supplementary information S8 (table).