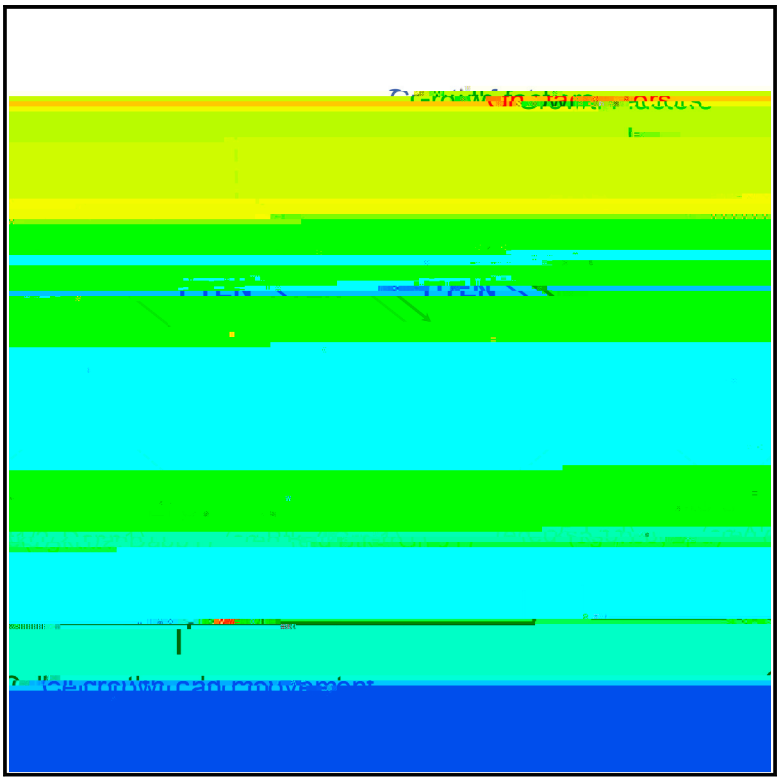
Article

Molecular Cell

PTEN R a PI(3,4)P_2 S a D a C a I PI3K

Graphical Abstract



Highlights

- PTEN is a PI(3,4)P_2 3-phosphatase
- PTEN and INPP4B function of PTEN

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In Brief

Malek et al. show that the tumor suppressor PTEN acts as a PI(3,4)P_2 3-phosphatase within the growth factor-stimulated PI3K signaling network, in addition to its accepted role as a PI(3,4,5)P_3 3-phosphatase. This suggests that specific PI(3,4)P_2 effector functions, such as invadopodia formation, play a role in the PTEN-loss-of-function phenotype.

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PTEN Regulates PI(3,4)P_2 Signaling Downstream of Class I PI3K

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SUMMARY

The PI3K signaling pathway regulates cell growth

I a Ma P a a C
PI(3,4,5)P_3 a PI(3,4)P_2 A a
EGF-S a M 10a C

Figure 2. The Identification of Phosphatases that Shape PI(3,4,5)P_3 and PI(3,4)P_2 Signals in EGF-Stimulated Mcf10a Cells

PTEN R a PI(3,4)P_2 A a M
M /P a Ca

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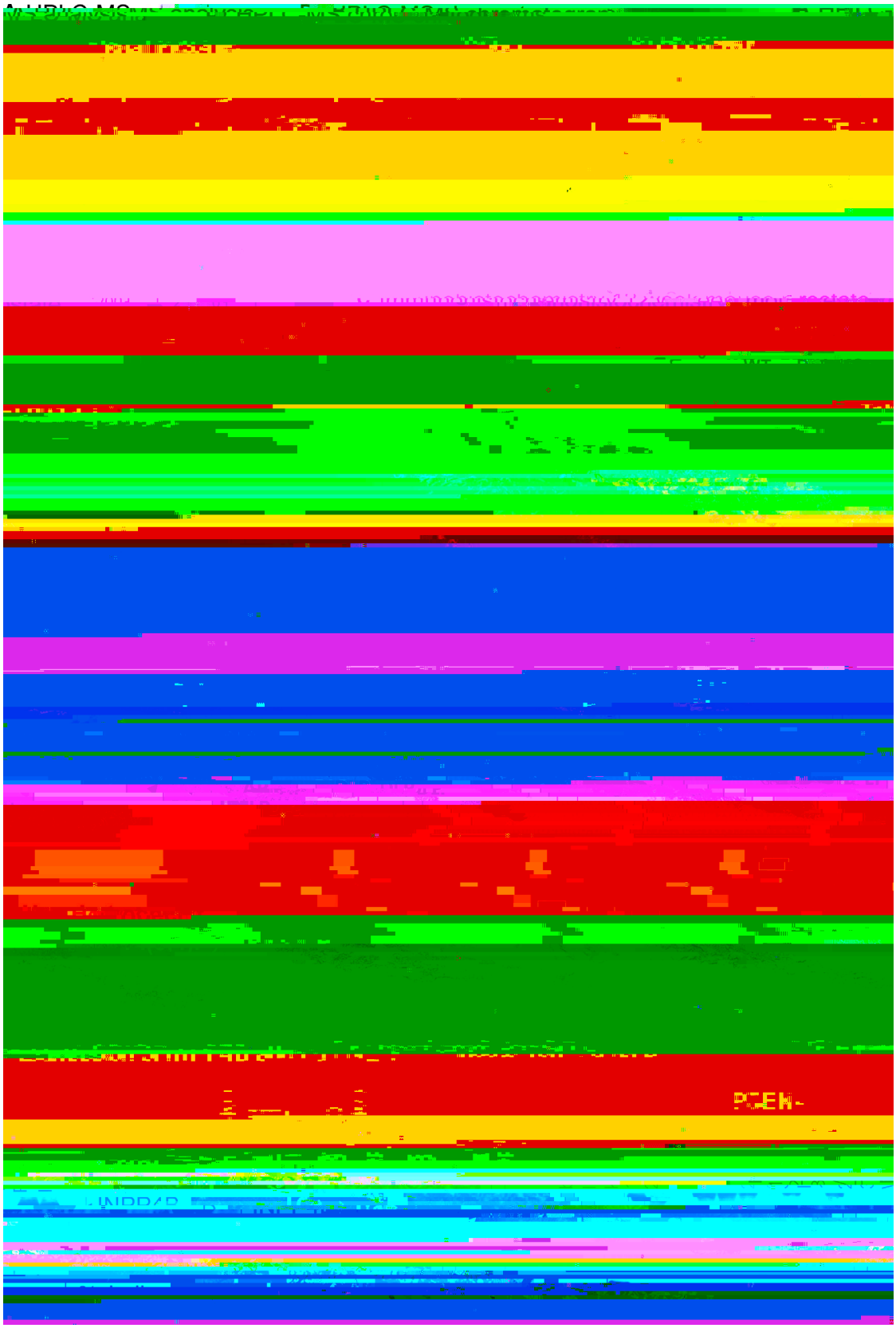

STAR★METHODS

KEY RESOURCES TABLE

C d

CONTACT FOR REAGENT AND RESOURCE SHARING

[illegible]

[illegible]

H a T (P a)

[illegible]

M a [illegible] PI(3,4)P_2 a[illegible] PI(4,5)P_2

Sa [illegible] P [illegible] a a

[illegible]

[illegible]

M a [illegible] PI3P a[illegible] PI4P

[illegible]

UPLC C d [illegible] PI3P/PI4P S [illegible] a a

[illegible]

[illegible]

[33]P-P[illegible] Lab [illegible] M [illegible]10a C [illegible]

[illegible]