## **Supporting information**

## A high-throughput assay to identify allosteric inhibitors of the PLC- $\gamma$ isozymes operating at membranes

Weigang Huang<sup>1</sup>, Adam J. Carr<sup>1</sup>, Nicole Hajicek<sup>2</sup>, Miri Sokolovski<sup>2</sup>, Edhriz Siraliev-Perez<sup>3</sup>, P. Brian Hardy<sup>1</sup>, Kenneth H. Pearce<sup>1,4</sup>, John Sondek<sup>2,3,4</sup>, and Qisheng Zhang<sup>1,2,4\*</sup>

<sup>1</sup>Division of Chemical Biology and Medicinal Chemistry, Eshelman School of Pharmacy, <sup>2</sup>Department of Pharmacology, <sup>3</sup>Department of Biochemistry and Biophysics, School of Medicine, <sup>4</sup>Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599. \*E-mail: qszhang@unc.edu

This information contains Figures S1-S4 (5 pages in total)

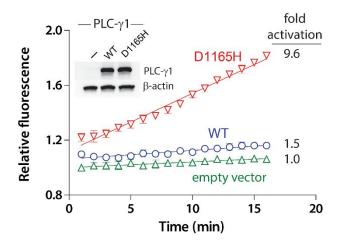
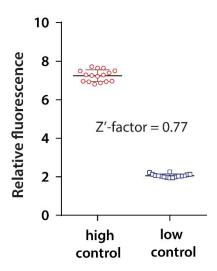


Figure S1. XY-69 measures phospholipase activity with cellular lysates. HEK293 cells were transfected to express the indicated forms of PLC- $\gamma$ 1 prior to lysis, addition of XY-69 and monitoring of fluorescence ( $\lambda_{ex/em} = 485/520$  nm). Fold activation is relative to the rate of fluorescence change for cells transfected with empty vector (no PLC- $\gamma$ 1) calculated from the mean of four replicates. Inset: western blots against PLC- $\gamma$ 1 and β-actin as indicated.



**Figure S2. Robust, high-throughput screen using XY-69.** The Z'-factor was measured using the optimized conditions described in the text. Hydrolysis of XY-69 by PLC- $\gamma$ 1 (D1165H) after 1 h is used as the high control while substituting PLC- $\gamma$ 1 (D1165H) for BSA as the low control. Each condition was measured 16 times.

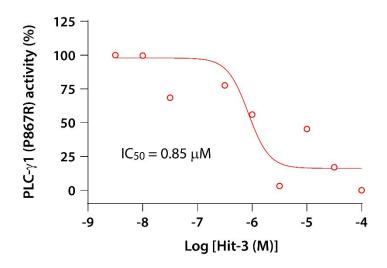


Figure S3. Inhibition of PLC-γ1 (P867R) by Hit-3.

Figure S4. Chemical structures of ribonucleotides and derivatives in the LOPAC<sub>1280</sub> library. Hit-3 is in red and the percent inhibition of the phospholipase C activity of PLC- $\gamma$ 1 (D1165H) by each compound is listed under its chemical structure.