

# Echelon Biosciences Inc.

## PI(3,5)P2 Grip™

G-3501

Support: echelon@echelon-inc.com

### Description:

Recombinant N-terminal GST-tagged PI(3,5)P2 binding protein expressed in E. coli.

### Properties:

Size – 2.5 µg, 10 µg, & 50 µg

Form – Liquid

Source – purified from E. coli

Concentration – 0.5 or 1.0 µg/mL; please see CoA for lot specific information

Storage – Store protein at -20 °C. The protein is stable for at least one week at 4 °C or 3 months at -20 °C. For multiple uses, aliquot the obtained protein stock solution and store at -20°C.

Storage Buffer – 10% glycerol, 50 mM NaCl, 50 mM Tris, 15 mM L-glutathione, 1 mM DTT, pH 7.5

M.W. of Protein – 82 kDa including GST tag

Purity – >90% by SDS-PAGE

Specificity – recognizes PI(3,5)P2; little to no crossreactivity with other phosphatidylinositols by direct binding.

### Background:

Phosphoinositides (PIPs) are minor components of cellular membranes but are integral signaling molecules for cellular communication. Phosphatidylinositol 3,5-bisphosphate (PI(3,5)P2) has been shown to play a central role in a variety of cellular functions such as endosomal homeostasis and is regulated by the kinase phosphatidylinositol-3-phosphate 5-kinase type III, aka PIKfyve.

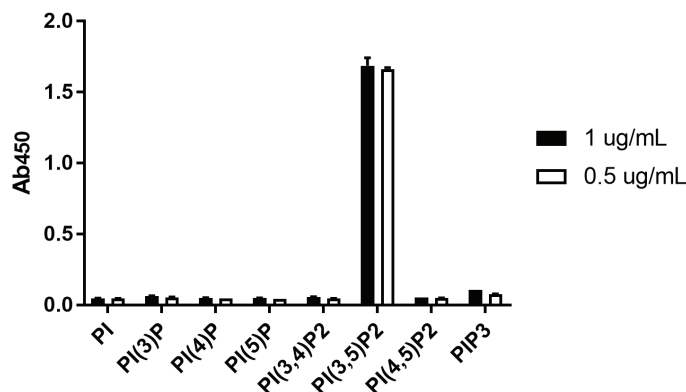
### Applications:

ELISA – 0.25 – 1.0 µg/mL

Dilute the stock protein in PBS supplemented with 1% BSA and incubate with coated lipids for 1 hour at room temperature with shaking. Secondary detection can be performed with conjugated anti-GST antibodies.

Recommended wash buffer is PBS supplemented with 0.05% Tween 20.

### Data: Direct ELISA



Phosphatidylinositols were coated to a 96-well plate and incubated with two concentrations of G-3501 in 1% BSA-PBS. Bound protein was then detected with anti-GST HRP antibodies and subsequent color development with TMB.

### References:

- Dove S.K., Piper, R.C., McEwen, R.K., Yu, J.W., King, M.C., Hughes, D.C., Thuring, J., Holmes, A.B., Cooke, F.T., Michell, R.H., Parker, P.J., & Lemmon, M.A. (2004) Svp1p defines a family of phosphatidylinositol 3,5-bisphosphate effectors. *EMBO J.* 1-12.
- Dong X., Shen D., Wang X., Dawson T., Li X., Zhang Q., Cheng X., Zhang Y., Weisman L.S., Delling M. & Xu H. (2010) PI(3,5)P2 controls membrane trafficking by direct activation of mucolipin Ca<sup>2+</sup> release channels in the endolysosome. *Nat Comm* 1(38)

### Related Products:

| Products                   | Catalog Number         |
|----------------------------|------------------------|
| <b>Reagents</b>            |                        |
| PIP Beads™ PI(3,5)P2       | P-B035a                |
| Flow PIPs: Multiplex Beads | P-FB01                 |
| PolyPIPosome               | Y-P035                 |
| <b>Lipids</b>              |                        |
| PI(3,5)P2                  | P-3504, P-3508, P-3516 |
| BODIPY FL-PI(3,5)P2        | C-35F6                 |
| BODIPY TMR-PI(3,5)P2       | C-35M6                 |
| <b>Antibody</b>            |                        |
| Purified Anti-PI(3,5)P2    | Z-P035                 |
| <b>Assays</b>              |                        |
| PIP Strips                 | P-6001                 |
| Membrane Lipid Strips      | P-6002                 |
| PIP Array                  | P-6100                 |

Technical Data Sheet Rev. 1, 09-16-20 - For research use only. Not intended or approved for diagnostic or therapeutic