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**Supporting information for article:**

# Structure of ginseng major latex-like protein 151 and its proposed lysophosphatidic acid-binding mechanism

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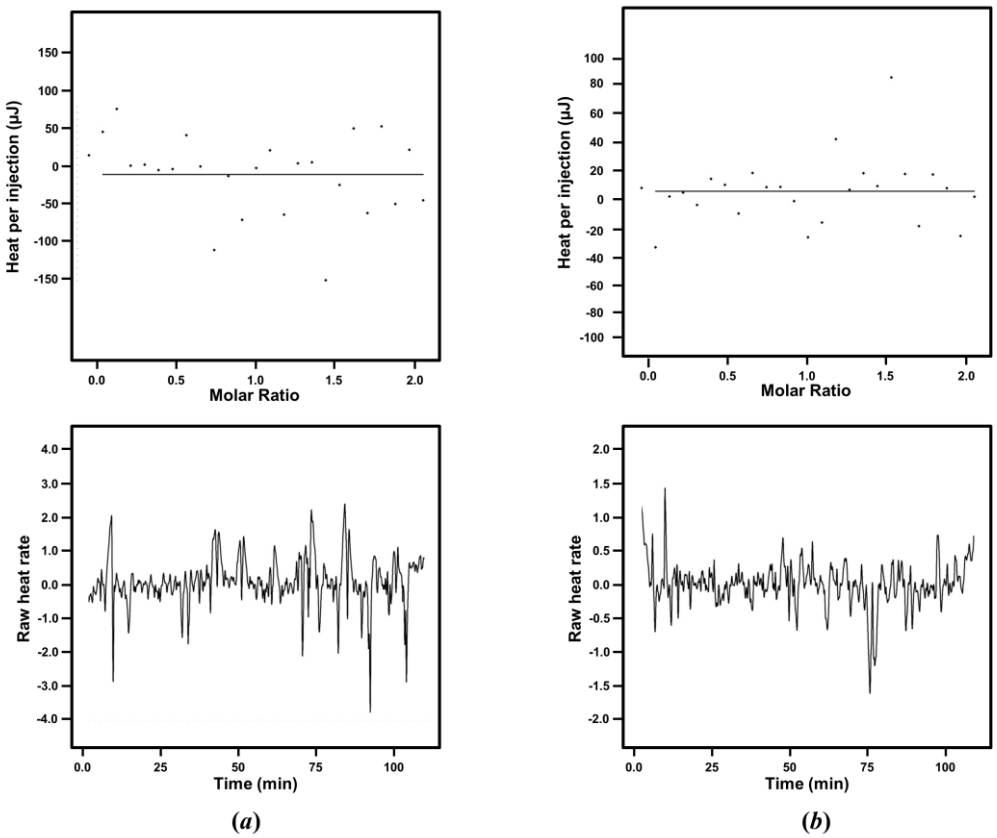


**Figure S1** Isothermal titration calorimetry analysis of the interactions of wild-type ginseng major latex-like protein 151 (GLP) with cyclic PA, and alkyl glycerophosphate. (*a*) Direct titration of cyclic PA into GLP. (*b*) Direct titration of alkyl glycerophosphate into GLP. ITC was conducted using the Nano ITC calorimeter (TA Instruments) with a cell volume of 190 µl at 25°C. Wild-type GLP, cyclic PA, and alkyl glycerophosphate were dissolved in 10 mM Tris-HCl, pH 7.5. A 50 µl injection syringe was loaded with a 1.2 mM cyclic PA solution or a 1.2 mM alkyl glycerophosphate solution. After temperature equilibration, 2 µl aliquots were injected into ITC sample cells containing wild-type GLP (240 µM) at 4 min intervals. The contents of the sample cell were stirred at 400 rpm throughout the experiment. Both the isotherms and the raw data are presented. Cyclic PA (1-Oleoyl-*sn*-Glycero-2,3-Cyclic-Phosphate) and alkyl glycerophosphate (1-O-9-(Z)-Octadecenyl-2-Hydroxy-*sn*-Glycero-3-Phosphate) were purchased from Avanti Polar Lipids (Alabaster, AL, USA).

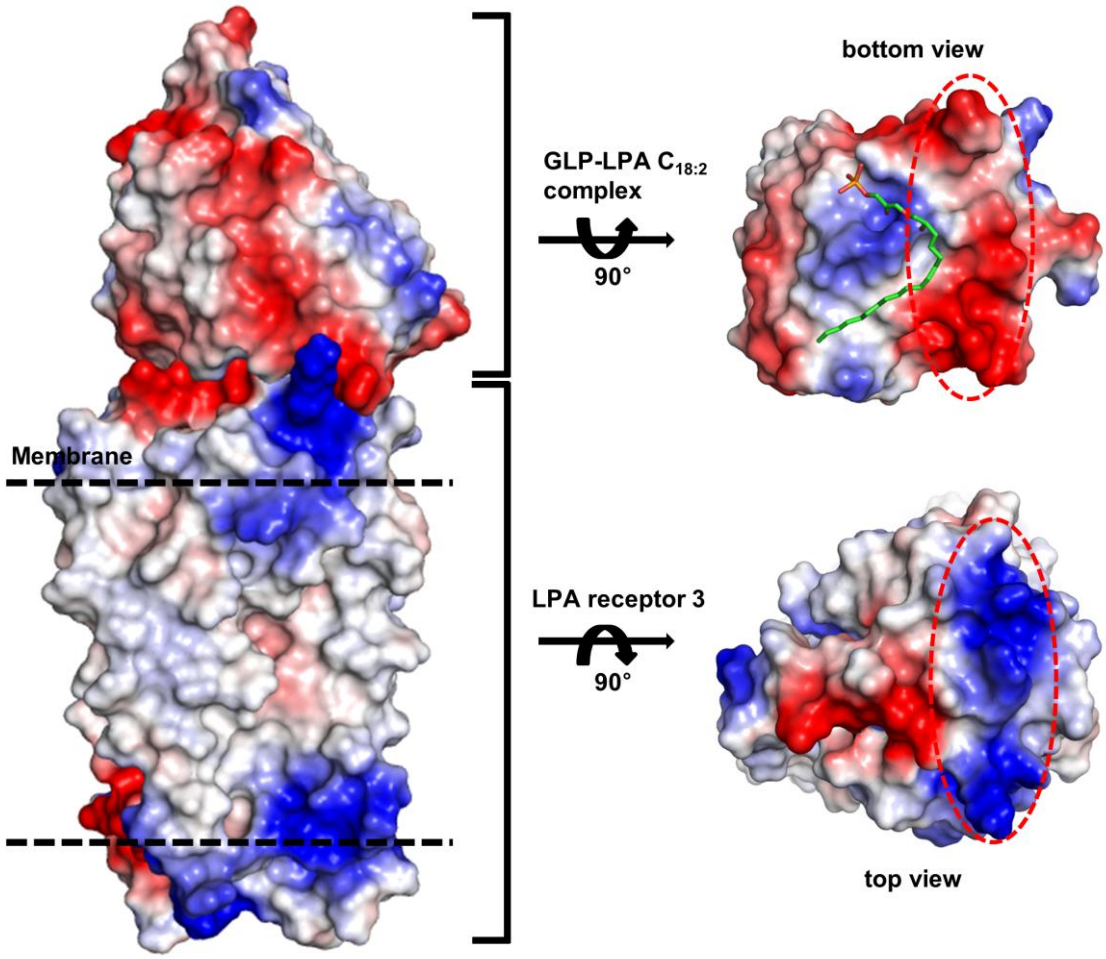


**Figure S2** Model of lysophosphatidic acid receptor 3 complexed with lysophosphatidic acid $C_{18:2}$ bound to ginseng major latex-like protein 151. The electrostatic potential molecular surfaces show that the negatively charged binding areas of the ginseng major latex-like protein 151–lysophosphatidic acid $C_{18:2}$ complex bound to the positively charged areas of lysophosphatidic acid receptor 3.