



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Ken X. Zhou	Project Number S2320
Project Title Metabolic Study of Ginsenoside Rb1 in Brine Shrimp (<i>Artemia salina</i>)	
Abstract Objectives/Goals The metabolism of brine shrimp was studied to determine if it was a valid organism for ginsenoside study. If brine shrimp are capable of metabolizing ginsenosides, they could be a better organism for ginsenoside study than humans, mice, or zebrafish. Methods/Materials Ginsenoside Rb1, ginsenoside Rd, and ginsenoside Rg3 were obtained from Cayman Chemical. Brine shrimp were available in the school laboratory. Brine shrimp were cultured from eggs and treated with ginsenoside Rb1. After treatment, brine shrimp were centrifuged, supernatant was removed and prepared for HPLC analysis. Brine shrimp was homogenized and also prepared for analysis. HPLC was conducted using a Hewlett-Packard Series 1100 HPLC machine. Results Peaks for the metabolites ginsenoside Rb1 and Rg3 did not appear in the chromatogram for any of the sample concentrations. Conclusions/Discussion Brine shrimp may or may not be able to metabolize ginsenosides, but the ginsenoside concentration was not enough to definitively determine whether or not it was metabolized. There was no peak for ginsenoside Rd or Rg3 in the chromatogram in HPLC analysis so it is not likely that brine shrimp may metabolize ginsenosides.	
Summary Statement Ginsenoside Rb1, an active ingredient in ginseng that has many medicinal benefits, was studied in brine shrimp to see if it could be metabolized.	
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