



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

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Project Title Rise to the Point: Ice-Nucleating Protein in Water	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Ice-nucleating protein is a protein used as a snow inducer. Our project was to test this protein to see how much it raises the freezing point of water.</p> <p>Methods/Materials We used a container and added ice, rock salt, and water to get the temperature to be -5°C. Then we mixed ice-nucleating protein with distilled water. We put 3 ml of distilled water in one test tube and 3 ml of the ice-nucleating protein water in another test tube. To get data we connected a Vernier LabPro to a computer and two sensors to the LabPro. The computer graphed the temperature of the two test tubes for 35 minutes.</p> <p>Results In two of our test the plain water froze at a higher temperature. In three of our tests the water with ice-nucleating protein froze at a higher temperature.</p> <p>Conclusions/Discussion We didn't find a specific difference of degrees in the two, but we learned that water with ice-nucleating protein always freezes faster than plain water.</p>	
Summary Statement Our project was to find out how ice-nucleating protein affects the freezing point of water.	
Help Received Our teacher helped us research.	