



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> <b>Brendan J. Bordelon</b>	<b>Project Number</b> <b>S1402</b>
<b>Project Title</b> <b>Study of the Effect of Lipitor on the Muscular System of Mus musculus</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of this study is to discover if Lipitor, a cholesterol-lowering drug, causes muscular degeneration and/or rhabdomyolysis in Mus musculus and, therefore, human beings.</p> <p><b>Methods/Materials</b> The procedure of the study is as follows: I bought 20 Mus musculus, common mice, from a pet store, and divided them into a control group and a Lipitor group, each with 10 mice. These mice were separated into different cages. The mice were then each weighed individually and were timed to see how long it took them to climb straight up a 46 centimeter tube individually. After recording the averages of each group, I ground up a pill of Lipitor, added it to water, waited one day, then added corn syrup to the solution, so the mice would find it appetizing. I then fed 1 mL of this solution to the mice each day through a small syringe. After seven days, I re-weighed each of the mice individually, checking for any muscular degeneration. I then ran each of them through the 46 cm tube again, again to check for any muscular degeneration or rhabdomyolysis. After taking the averages of both these tests, I continued feeding the solution to the Lipitor mice every day until the next seven days, when I repeated the tests above. This pattern lasted for six weeks, at which time I stopped feeding the Lipitor to the mice and officially ended the study.</p> <p><b>Results</b> The data showed that the Lipitor mice weighed, on average, about 5.2 grams less than the control mice. It also showed that, during the six week study, the Lipitor mice continued to take more time, on average, than the control mice, and that by week six, the Lipitor mice were taking, on average, twenty more seconds to climb straight up the 46 centimeter tube.</p> <p><b>Conclusions/Discussion</b> By analyzing the data, one comes to the conclusion that the Lipitor did have some effect on the muscular systems of the Mus musculus, causing muscular degeneration and possibly mild rhabdomyolysis. The fact that the Lipitor mice lost, on average, 5.2 grams out of an average weight of 28 grams shows that at least some muscular degeneration occurred. Also, the fact that the Lipitor mice spent, on average, twenty seconds more time in the 46 centimeter tube than the control mice demonstrates that the Lipitor mice had a more difficult time climbing to the top of the tube, which speaks to some degree of muscular problems.</p>	
<b>Summary Statement</b> To determine the effects of Lipitor, a cholesterol-lowering "statin" drug, on the muscular systems of vertebrates.	
<b>Help Received</b> Mother helped complete board; friend's father helped procure equipment needed for study; Uncle helped answer pharmacology questions	