



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Nitya Rajeshuni	Project Number S0516
Project Title Antacids in Action!	
Abstract Objectives/Goals The purpose of this experiment was to determine whether name brand antacids or generic brand antacids are better for consumers in relationship to cost and efficiency. I hypothesized that name brands would be better for consumers because they are recommended by doctors, they are the complete focus of the corporation, and they are more expensive. Methods/Materials The name brands tested were Tums and Roloids and the generic brands tested were Equaline (Albertsons), Safeway (Pavilions), and Kroger (Ralphs). The main ingredient in each of these antacids was calcium carbonate (CaCO ₃). In reverse titration, I added excess acid to the antacid, so part of the .200 hydrochloric acid (HCl) was neutralized by the antacid. I then titrated the solution against 0.192 sodium hydroxide base (NaOH) to neutralize the remaining acid. Using the amount of NaOH taken before the endpoint was reached and the weight of each tablet, I was able to calculate the efficiency (moles/gram) of each antacid per tablet. Results Out of the five antacids tested, Roloids was the most efficient, and Tums was the least efficient. In between these two, the order of efficiency was Kroger, Equaline, and Safeway. In relationship to cost, Tums was the most expensive and Safeway was the least expensive. Roloids was more expensive than both Kroger and Equaline, which cost the same price. Conclusions/Discussion My hypothesis proved incorrect. Although Roloids was the most efficient, it was too costly; therefore, out of the five antacids tested, Kroger is the best antacid to purchase. It was the second most efficient, and after Safeway, it was the least expensive. Equaline and Safeway had proportionately the same efficiency and cost, whereas Tums was extremely expensive and inefficient. Thus, the generic brands were better for consumers than the name brands. These data suggest that consumers must be careful when buying medications such as antacids, for the most famous and expensive are not necessarily the most efficient.	
Summary Statement My project was to determine whether name brand antacids are more efficient than generic brands in relationship to cost and efficiency.	
Help Received Used lab equipment of Pasadena City College under supervision of Dr. Padma Gani (for safety reasons), who did not assist in the actual project.	