Beat That Blemish

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Like many other teenagers, I have struggled with acne during my adolescent years. My curiosity and frustration have led me to this experiment to test which topical retinoid would be the most effective in killing and preventing the growth of bacteria. The mixture of the sebum and dead cells allow bacteria, Propionibacterium acne (P. acne) that normally live on skin to grow in these plugged hair follicles, causing inflammation. While acne is persistent, it can be treated with various medicines such as clindamycin, adapalene, and tretinoin. Tropical retinoids target the microcomedo- precursor lesion of acne. They remove dead skin cells from the surface of the skin, exfoliating, which prevents them from building up within hair follicles. If three topical creams, Treitnoin, Clindamycin Phosphate, and Adapalene were applied to bacteria, then Adapalene would work to prevent the most bacteria growing due to its similar traits to tretinoin but higher lipophicility and increased chemical stability. To conduct my experiment, I had decided to use 40 pre-poured agar plates, then swabbing tables, and applying each of the different swabs to the 40 different places. After, I streaked 10 plates with treitnoin, 10 with clindamycin, and 10 with adapalene, and 10 with water using a pipette. I placed them upside down in the fridge for 24 hours and then the incubator for 48 hours. My hypothesis was then rejected as the Clindamycin plates had the least amount of colonies with an average of 0.1 colonies.

Awards Won: