

UAlbany Chemists Explore Antituberculous Agent and Inflammation



UAlbany chemistry graduate student Beatriz Elena Bolivar, a member of the Welch laboratory, is testing the influence of the clinical antituberculous agent pyrazinamide on regulation of inflammation. Pyrazinamide is an essential drug in the World Health Organization-approved treatment for tuberculosis. Ms Bolivar's studies, made possible by an award from the AIDS Clinical Trial Group and the Division of AIDS, are based on her hypothesis that this effective antibacterial agent can modulate inflammation. In her preliminary experiments, Ms Bolivar has shown that the action of pyrazinamide on the immune response may offer a rationale for the dramatic effect that the drug has on the duration of chemotherapy required for a durable cure.

Previously the Welch research group has studied inflammation signaling peptide levels when pyrazinamide was utilized in a mouse model of the tropical disease leishmaniasis. Those results led to the hypothesis that the centrality of pyrazinamide to current and prospective anti-tuberculous therapy is a consequence of the action of pyrazinamide (through the metabolite pyrazinoic acid) to modulate the host immune response. This hypothesis offers a rationale for the essentiality of pyrazinamide, a drug with, at best, only modest *in vitro* antituberculous activity.