

## **RESEARCH**

### ***Wits node researchers characterize a vitamin B<sub>12</sub>-dependent metabolic pathway for carbon metabolism in Mycobacterium tuberculosis***

As part of an ongoing study on the role of enzymes that require a vitamin B<sub>12</sub> cofactor in the metabolism of *Mycobacterium tuberculosis*, researchers at the Wits node have investigated the function of the methylmalonyl pathway, a key step of which is catalyzed by the vitamin B<sub>12</sub>-dependent enzyme, methylmalonyl CoA mutase. In a paper published in the June 2008 issue of the *Journal of Bacteriology*, doctoral student Suzana Savvi, together with team members Digby Warner, Valerie Mizrahi and Stephanie Dawes, show that *M. tuberculosis* is able to grow on propionate as sole carbon source in the absence of a functional methylcitrate cycle provided that vitamin B<sub>12</sub> is added to the culture medium. Their findings confirm the functionality of the methylmalonyl pathway as an alternate route for metabolism of the three-carbon metabolite, propionate, in *M. tuberculosis*. The results of this study have important implications for propionate metabolism during growth of *M. tuberculosis* on certain fatty acid carbon sources and hence, on tuberculosis drug discovery efforts that are based on targeting carbon metabolism pathways.