Gerstner Sloan Kettering
Graduate School of Biomedical Sciences

Welcome to GSK

The Michael Glickman Lab

Admissions

Daniel Barkan, MD

Cancer Biology

Fellow

Cancer Engineering

Office Fax

646-422-0502

Research

Lab Phone

646-888-2360

Alumni

Email

barkand@mskcc.org

Research Focus

My current research has two main, and one more minor, topics:

The role of the SAM-dependent methyl transferase enzymes in the biology and pathophysiology of Mycobacterium tuberculosis. I showed these enzymes have profound importance for the modulation of the immune response to M. tuberculosis infection, that they are essential for inherent drug resistance, acid fastness and viability of the bacteria, and can serve as an excellent and novel drug target. Attenuated mycobacteria (such as BCG) with mutations in this enzyme family have enhanced immunogenicity, which can serve as better tuberculosis vaccine and as a vehicle for better T-cell dependent vaccines.

The role of DNA repair mechanisms in the pathophysiology of M. tuberculosis, especially for maintaining the dormant/persistent phenotype, and resistance to DNA damaging antibiotics.

Development of novel genetic tools for study of mycobacteria, as was shown in my recent paper on the development of the E. coli galactokinase gene as a negative selection marker in mycobacteria, and a powerful tool in genetic manipulation of these bacteria.

Communication preferences