

LAY ABSTRACT

There is considerable interest and expectations that nutrition plays a significant role in immune function. In fact, the most common reason why consumers buy nutritional supplements is to stimulate immunity. However, with the exception of nutritionally-at-risk hosts, there is a paucity of data to suggest a critical role of nutrition in improving immune function. One possible exception is the use of nutritional therapy to modulate an existing autoimmune disease. My laboratory has been studying a unique mouse model of a human disease called primary biliary cirrhosis. This disease is most common in women and its current therapeutic options are disappointing. My thesis is that a diet rich in soy beans and, in particular, the use of β -glucosylceramide (GC), which is abundant in soy beans, can be used therapeutically. I propose to test this using my mouse model and demonstrate not only proof of principle, but also key elements of mechanism that will allow me to apply for more extensive funding from the National Institutes of Health.