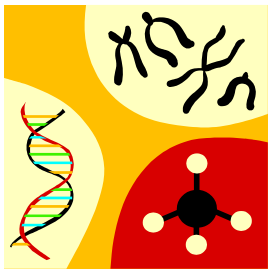
ATP



All living cells produce adenosine triphosphate (ATP) as the main means to store energy in the cell. When a sample contains many active microbial cells then there is much more ATP present. Testing for ATP in a sample has become the “gold standard” by which the numbers of active cells in the sample can be counted. BART testers use a similar approach but here the activity is measured by the time lag to a recognized reaction or activity rather than the concentration of ATP. Here a shorter time lag would mean more activity and higher ATP levels. Studies at the Universities of Western Ontario and Saskatchewan has found good correlations between the concentration of ATP in water and soil samples and the time lags generated by BART testers. BART testers are, however, simpler to set up than the ATP analysis, less expensive and can also be used away from a laboratory setting. Time lags taken from the BART tester can provide good correlations to the ATP analysis but are more economical and more convenient in their use while at the same time obtaining good precision.