

The Effect of Alkylresorcinol on Lipid Metabolism in *Azotobacter chroococcum*

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We studied the effect of exogenous alkylresorcinols on the lipid metabolism of *Azotobacter chroococcum*. We observed that when 5-*n*-pentadecylresorcinol was present in the growth medium, the more endogenous alkylresorcinols were synthesized. Concurrently, a drop in the amount of phospholipids was observed. These changes were associated with increasing numbers of dormant cysts, while the number of vegetative cells diminished. The chemical nature of the alkylresorcinols synthesized by *Azotobacter chroococcum* was dependent on the duration of exposure of the bacteria to exogenous alkylresorcinols. When the exposure time was prolonged to four days, 5-*n*-nonadecylresorcinol (C 19:0) was substituted by 5-*n*-heneicosylresorcinol (C 21:0) and 5-*n*-tricosylresorcinol (C 23:0). Two fluorescent membrane probes, NBD-PE and TMA-DPH, further revealed that the presence of alkylresorcinols in the lipid bilayer restrains the phospholipid rotational motion.

Key words: Phenolic Lipids, Alkylresorcinols, *Azotobacter*