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**Impact of Morphological Changes on the Motility of *Amoeba proteus*** SUNITHA SHROFF N, Mount Carmel College, Bangalore — Bio-mechanical properties of cell membrane, actin and cytoskeleton have influence on the cell locomotion. To explore, morphological changes were induced in *Amoeba proteus* by depriving nutrition, also either through ATP mediated or through KCl mediated membrane depolarization. We observed that, membrane depolarization leads to complete loss/reduction of pseudopodia in a dose dependent manner, gradually *A. proteus* becomes globular. We also report that with deprivation of its nutrition (Chilomonas) *A. proteus* transforms them into tube/filament like structure and this transformation is reversible with the supply of Chilomonas. Results indicate that the structural and locomotion variation of *A. proteus* through nucleotides may not be just a membrane phenomenon, but may involve signaling mechanisms. Further, we carried out immunostaining of *A. proteus* with P2X2 and P2Y2 antibodies to analyze their localization and the extent of expression. The result indicated that in normal *A. proteus* receptors are dispersed uniformly, whereas in filament shaped *A. proteus* P2X2-receptor was found to be localized, unlike P2Y2 receptor. As nucleotides are known to cause structural changes in the organism, we report corresponding changes in their locomotion.

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