

Randomness of amoeba movements

Abstract

Movements of amoebas were automatically traced using the difference between two successive frames of the microscopic movie. It was observed that the movements were almost random in that the directions and the magnitudes of the successive two steps are not correlated, and that the distance from the origin was proportional to the square root of the step number.

Keywords — Amoeba movements, random walk, cell locomotion, chemotaxis, related directed motion