**MATHEMATICAL MODELING FOR THE ESTIMATION OF LIPASE ACTIVITY BY AGAR DIFFUSION METHOD**

**Chang et al, 97**

**Methods for analysis of lipase:**

Cupric acetate method

Plate agar diffusion method

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**Data**

• Size of halos measured with a ruler over constant time intervals

• Experiment repeated three times to calculate average values used in model

**Methods**

• Mathematical model formed using Fick's law

• c(r,t) = lipase concentration as a function of time and radial distance

• Used regression analysis to fit hindered diffusion coefficients and threshold values of lipase concentration as parameters

- Used finite difference method outlined in Constantinides, 1987

• Amount of lipase in plate at each time calculated by numerical integration. The total amount of lipase varied by 2.5%, confirming the appropriateness of the mathematical model used.