Transformation Efficiency Practice Problem

We added 10 μl of 0.005 μg/μl pAMP plasmid to a tube of E. coli. The bacteria were suspended in 300 μl of cold calcium chloride. After heat shock, 300 μl of Luria broth was added to the tube. 150 μl of cell suspension was placed on agar plates. The plates were incubated at 37° C for 24 hours. 35 colonies were counted on the +T plate.

What is the Transformation Efficiency?

Answer on next page.
A. 0.005 μg/μl x 10 μl .05 μg pAMP

B. 150 μl
   600 μl 0.25

C. 0.25 x 0.05 μg pAMP 0.0125 μg pAMP

D. 35 colonies
   0.0125 μg pAMP

2.8 X 10^3 colonies/μg pAMP