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The Effect of Fasudil on the Metastasis of Saccharomyces cerevisiae

The purpose of this project was to determine if a cardiovascular vasodilator, Fasudil, could stop the metastasis of leukemia cells. Fasudil is vasodilator meaning that it will open up blood vessels to help with pulmonary hypertension. The researcher used *Saccharomyces cerevisiae* to represent the metastasis of leukemia cells. Yeast studies have shown exactly how yeast divides and goes through its cell cycle. This information was useful since many drugs used to treat cancer act by interfering with the cell cycle. The researcher made a serial dilution of, the cardiovascular vasodilator, Fasudil to the 10^{-8} dilution. The dilutions were separated into high, medium, and low dilutions. These dilutions were added to yeast cells that were grown on Petri dishes. The yeast cells were then monitored over the next 24 hours. The researcher counted the colonies that were seen and recorded the data. The results were then compared based on the high, medium, and low dosages to determine which dilutions worked best for stopping the metastasis of leukemia cells. The medium dosage of the Fasudil achieved slowing the metastasis of the *Saccharomyces cerevisiae*. The high and low dosages did not affect the metastasis of the *Saccharomyces cerevisiae* as much as the medium dosage did. In the low dosages there were too many colonies to count for the first 3 dilutions (10^{-1} through 10^{-3}) whereas in the medium dosages there were hardly any yeast colonies to count in the 10^{-1} through the 10^{-3} dilutions. There was an average of 1.323 colonies in those dilutions per grid on the colony counter. The researcher concluded that there were more colonies in the high and low dilutions than there were in the control. For example, the control had an average of 14.496 colonies per grid while the low had an average of 17.44 colonies per grid and the high had an average of 15.85 colonies per grid.