Total Sponge and Coral Proteins Show Promise for Slowing N2a Cancer Cell Division

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Nearly 60% of anticancer treatments are derived from naturally existing molecules. If total protein from the sponge Spirastrella cunctatrix is purified, kept in native conformation, and added to N2a cancer cells in culture, then there will be a decrease in the growth rate of the cells. Total protein was purified from these species and added to growing cancer cells to determine their effects on the growth rate of N2a cancer cells. In trial 1, only sponge protein was tested, and slowed the growth rate of N2a cancer cells by 90% percent. In trial 2, proteins were tested from five different species. While sponge proteins did not impact N2a cell growth in this trial, milk, and coral proteins decreased the growth rate by 15% and 40%. In trial 3, the effects of coral and sponge proteins were tested in triplicates. Sponge proteins slowed N2a growth rate by 56% ($p<0.05$), while coral proteins decreased the growth rate by 16%. These results support the hypothesis that sponge proteins slow the growth rate of N2a cancer cells.

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