

Anthrax may be ally in cancer war

by Bend_Weekly_News_Sources

Most people would not consider an anthrax toxin to be helpful, but this bacterial poison may some day be a cancer therapy, scientists claim. The toxin has been shown to be fairly selective in targeting melanoma, or skin cancer, cells, according to Stephen Leppla of the National Institute of Allergy and Infectious Diseases in Bethesda, Md. In a new study, Leppla and colleagues modified the toxin to make it target tumor cells even more precisely, while sparing healthy cells. To work, the researchers said, the new poison requires the presence of proteins overproduced only in cancer cells. The proteins are called matrix metalloproteinases. The team found that all mice tested with the modified toxin tolerated doses that would be otherwise lethal. The modified poison was also better at killing melanoma tumors than natural toxin, they said, due to its higher specificity and longer presence in the blood. Even better, Leppla and colleagues said, the molecule's anticancer activity was not limited to melanoma: the poison could also kill other tumors like colon and lung. This ability was due, they reported, to its power to inhibit angiogenesis, or the formation of new blood vessels that nourish tumors. "These encouraging mouse results suggest that modified anthrax toxin could be clinically viable, and this potential killer might some day be put to good use," said an announcement of the findings this week from the American Society for Biochemistry and Molecular Biology. The organization publishes the Journal of Biological Chemistry, which reports the new study in its Jan. 4 issue.

Courtesy American Society for Biochemistry and Molecular Biology

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