

Toward pinpointing the location of bacterial infections

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In an advance in the emerging field of bacterial imaging, scientists are reporting development of a method for identifying specific sites of localized bacterial infections in living animals. Bradley D. Smith at the University of Notre Dame and colleagues describe the method in a report scheduled for the Jan. 10 edition of the *Journal of the American Chemical Society*, a weekly publication.

The researchers previously discovered fluorescent molecular probes containing zinc that could be used to discriminate between common pathogenic bacteria -- such as *E. coli* and *Staphylococcus aureus* -- and mammalian cells. In new research, they report using the probes to pinpoint the sites of staph infections in living laboratory mice. In everyday medicine, physicians may have difficulty distinguishing localized bacterial infections from sites of sterile inflammation.

"Bacterial imaging is an emerging technology that has many health and environmental applications," the researchers note. "For example, there is an obvious need to develop highly sensitive assays that can detect very small numbers of pathogenic bacterial cells in food, drinking water, or biomedical samples. In other situations, the goal is to study in vivo the temporal and spatial distribution of bacteria in live animals."

Source: American Chemical Society

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