

## The Role of Bacteria in Cancer Therapy

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Currently, bacteria have shown promising and significant potency in preclinical mouse tumor models because of their tumor-targeting capability and ability to deliver therapeutic genes. However the successful translation of these pre-clinical strategies into clinical practice will depend on the outcome of clinical trials. Amongst all these, bacteria like *S. typhimurium* vector-mediated cancer therapy and immunotherapy are very promising. The use of bacterial toxins and spores has also shown great promise for cancer treatment. The exact mechanism of tumor clearance by bacteria needs to be elucidated. Focusing on the therapeutic effect of bacteria alone could be insufficient, and combination therapy is necessary to pave the way for routine application of bacteria for cancer treatment in clinics. Challenges like bacterial toxicity, stability and efficiency could be addressed by using synthetic biology.