

*** Exceptional

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NEW FINDING | NOVEL DRUG TARGET | TECHNICAL ADVANCE

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This is an excellent read on the in vivo use of probiotics to safely deliver synthetic gene circuits to diseased tissue microenvironments.

The molecular genetics approach using an existing, well-documented *E. coli* probiotics strain amenable to rDNA work made complete sense. They had a good double-barreled approach to plasmid maintenance. Of course the tumour honing approach has been pursued before with *Salmonella* sp., but never so elegantly and of course pumping *Salmonella* sp. into humans would not make sense. There was no magic bullet delivery to the tumour either, but that may be possible in the future. It is intriguing that the probiotic "robustly colonized tumor tissue" in their rodent models of liver metastasis after oral delivery but "did not colonize healthy organs or fibrotic liver tissue". If this were to work in humans, it would be interesting and potentially a breakthrough. For further reading, please see {1,2}.

References

1.

Bacterial microbiota of human breast tissue.

Urbaniak C, Cummins J, Brackstone M, Macklaim JM, Gloor GB, Baban CK, Scott L, O'Hanlon DM, Burton JP, Francis KP, Tangney M, Reid G. *Appl Environ Microbiol.* 2014 Mar 7;

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2.

***Escherichia coli* Nissle 1917 facilitates tumor detection by positron emission tomography and optical imaging.**

Brader P, Stritzker J, Riedl CC, Zanzonico P, Cai S, Burnazi EM, Ghani ER, Hricak H, Szalay AA, Fong Y, Blasberg R. *Clin Cancer Res.* 2008 Apr 15; 14(8):2295-302

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