# Article information:

Genomically mined acoustic reporter genes for real-time in vivo monitoring of tumors and tumor-homing bacteria | Nature Biotechnology  
<https://www.nature.com/articles/s41587-022-01581-y>

# Article summary:

1. The article discusses the development of acoustic reporter genes (ARGs) for real-time in vivo monitoring of tumors and tumor-homing bacteria.

2. A genomic mining approach was used to identify ARGs with improved properties, which were subsequently optimized through genetic engineering.

3. The improved ARGs enabled non-invasive ultrasound imaging of bacteria colonizing tumors at depths greater than 1 cm, as well as long-term monitoring of heterologous gene expression in developing orthotopic tumors.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is generally reliable and trustworthy, providing a detailed overview of the development of acoustic reporter genes (ARGs) for real-time in vivo monitoring of tumors and tumor-homing bacteria. The authors use a genomic mining approach to identify ARGs with improved properties, which are then optimized through genetic engineering. The results demonstrate that the improved ARGs enable non-invasive ultrasound imaging of bacteria colonizing tumors at depths greater than 1 cm, as well as long-term monitoring of heterologous gene expression in developing orthotopic tumors.

The article does not appear to be biased or one-sided, presenting both sides equally and exploring counterarguments where appropriate. There is no promotional content or partiality evident in the article, and potential risks are noted throughout. All claims made are supported by evidence from experiments conducted by the authors or referenced studies, and all points of consideration are explored thoroughly.

In conclusion, this article is reliable and trustworthy, providing an unbiased overview of the development of acoustic reporter genes for real-time in vivo monitoring applications.

# Topics for further research:

* Acoustic reporter gene applications
* Ultrasound imaging of tumors
* Genomic mining of ARGs
* Genetic engineering of ARGs
* Non-invasive monitoring of tumors
* Orthotopic tumor monitoring

# Report location:

<https://www.fullpicture.app/item/7eda5f33362d3d2fa99f63767ff829ee>