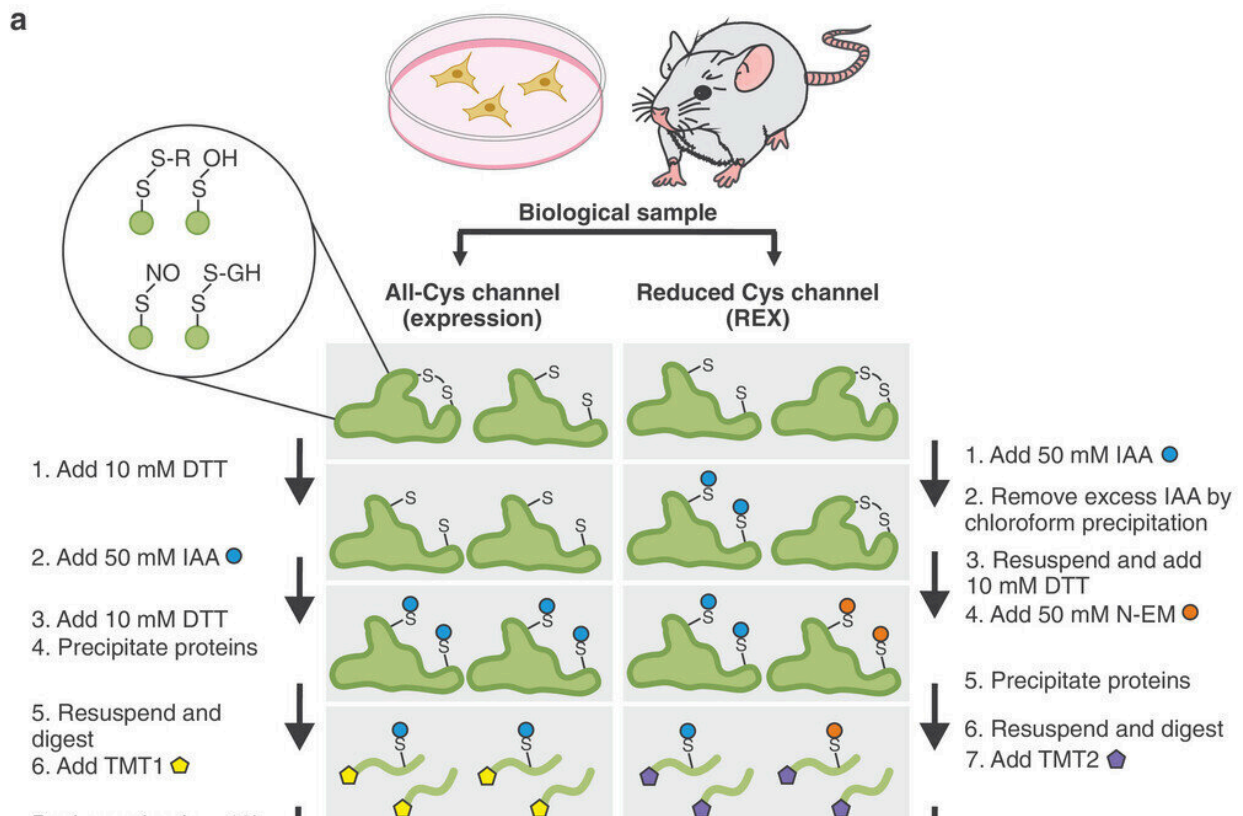


New tool PISA-REX facilitates drug development

August 14 2024, by Sara Lidman



PISA-REX workflow and experiment design. Credit: *Advanced Science* (2024). DOI: 10.1002/advs.202401502

Researchers have developed an industry-standard tool to facilitate drug development and translational research in collaboration between labs at

Karolinska Institutet and the Gygi Lab at Harvard Medical School. Their results are published in [Advanced Science](#).

Redox signaling is important in many [cellular processes](#) and dysregulation of redox signaling pathways can be involved in the pathobiology of disease. In this collaboration, the labs at Karolinska Institutet and Harvard Medical School developed a novel high-depth and high-throughput redox proteomics approach (REX) to study redox signaling in cells and tissues.

The labs also integrated REX with proteome-wide solubility and expression analysis in a robust tool, PISA-REX, to help understand the drug mechanism of action and disease pathobiology.

"By understanding drug mechanism of action and revealing disease mechanisms, PISA-REX can facilitate [drug development](#) and translational research," says Amir Ata Saei, co-author and Assistant Professor at the Department of Microbiology, Tumor and Cell Biology at Karolinska Institutet.

"Developing this industry-standard tool, we aim to extend the applications of PISA-REX to other exciting model systems involving host-pathogen interactions, drug/[antibiotic resistance](#), and cancer," says Roman Zubarev, co-author and Professor at the Department of Medical Biochemistry and Biophysics at Karolinska Institutet.

More information: Amir A. Saei et al, Multifaceted Proteome Analysis at Solubility, Redox, and Expression Dimensions for Target Identification, *Advanced Science* (2024). [DOI: 10.1002/adv.202401502](https://doi.org/10.1002/adv.202401502)

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