

Synthetic Cell Risk Assessment

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Notification of Project

Experimental
Design

Institutional
Biosafety
Committee
Review



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Initial Questions



What is the goal/purpose?



What is the hypothesis?



What is the funding?



Experimental Design

Membrane

Genome

Energy source

Ability to replicate

Potential to compete with wild type cells

Risk to humans, animals, plants, and environment

Procedural Hazards

Number of cells

Proximity to naturally occurring cells

Possibility of horizontal gene transfer

Identification

Evolution



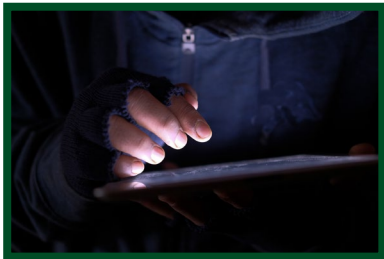
Credit: iStock



What are the risks?

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Biosafety



Work Practices



Personal Protective Equipment



Facilities



Administrative controls

Goal is to protect the researchers, community, and environment

Biosecurity



Theft of materials and/or cells

Malicious use

Theft of data/intellectual property

Export control constraints

Dual use potential

Goal is to protect research, intellectual property, and community from internal and external threats



Should the research be done?

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THANK YOU