

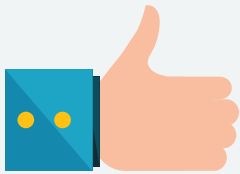
VALIDITY AT THE BENCH

[vuh-li-duh-tee]

The extent to which a study's design, execution, and analysis prevents bias. Scientific validity allows researchers to judge how much confidence they have in their research findings being true.

Why is validity important?

Without considering validity throughout an experiment, researchers are at risk of systematically biasing the research findings.



Three types of validity exist:



Internal validity

The extent to which the design and conduct of the study prevents bias.



External validity

The generalizability of study conclusions from one population, setting and time onto other populations, settings, and times.



Construct validity

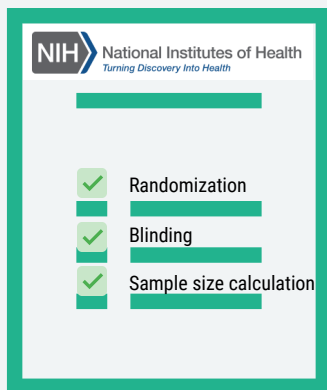
Extent to which an animal model corresponds to the clinical disease it is meant to represent.

Considering the three types of validity when conducting preclinical research reduces the likelihood that the research findings are affected by bias.

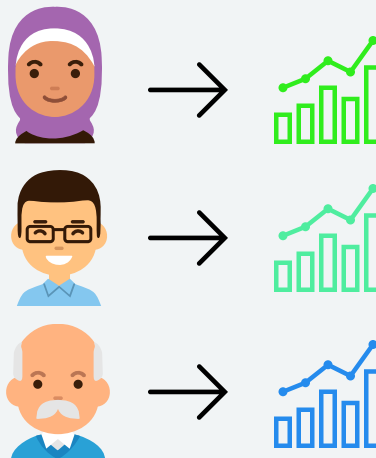


Best Practices

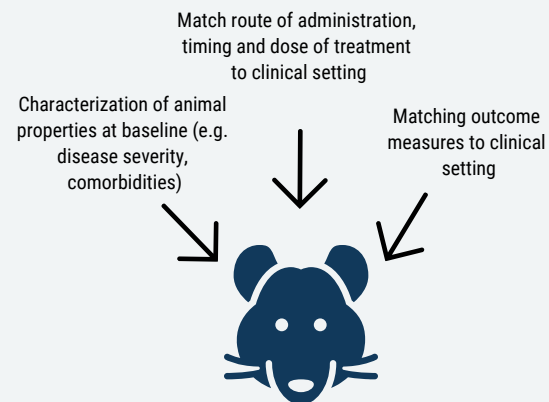
To have good internal validity is to have good methodological quality



To have good external validity is to have good replicability

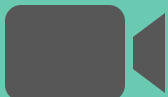


To have good construct validity is to have good modelling of the human disease in an animal



Tools and more information

Resources



- CAMARADES Study Quality Checklist
- SYRCLE's Risk of Bias Tool



Publications

- Threats to validity in the design and conduct of preclinical efficacy studies: a systematic review of guidelines for in vivo animal experiments. PLoS Med, 2013.
- Critical Appraisal of studies using laboratory animal models. ILAR Journal, 2014.