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El autor declara que no tiene intereses en conflicto con el desarrollo de este trabajo. El autor declara que no tiene intereses en conflicto con el desarrollo de este trabajo. El autor declara que no tiene intereses en conflicto con el desarrollo de este trabajo.

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- a. in-vitro studies are complementary to in-vivo studies but have limitations such as cannot 'age', individuality & experimental, prone to confounding as the response cannot be able, it means we have little confidence in them. the confidence is a little better than 000000
- b. in-vivo studies are the opposite of in-vitro, advantages is the better that the environment due to complexity and physiological of the organism unlike the artificial & experimental conditions such as different diet.
- c. can often generalize the test results (accuracy), can predict it is the other things that is better because of the complexity but cannot use to evaluate response.
- d. in-vitro experiments & in-vivo studies are all for the same but the in-vitro experiments are in control of the system of components involved, control over the level of complexity.
- e. in-vitro studies are usually not used for testing safety products as unethical reasons for using humans in vivo.

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