

A Scientific Case for Intelligent Design: Executive Summary

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Intelligent Design: An effect that requires intelligence to produce. E.g., laptop computer, a novel, smartphone app

Intelligent Design in Science:

1. **Design Application:** the use of intelligence to set up and run experiments and apply the results; starts with first principles and produces complex effects; e.g., artificial designed proteins, genetic algorithms.
2. **Design Derivation:** reverse engineering; starts with a complex effect and breaks it down to first principles in an effort to understand how it works; e.g., genetics
3. **Design Detection:** distinguishing between effects that were produced by natural processes and effects that required an intelligence to produce; e.g., forensic science, archeology, SETI, biology.

Design hypothesis: An attribute that is unique to intelligence is the ability to produce effects that require a statistically significant level of functional information or functional complexity.[1-3]

Scientific method for testing for intelligent design: Measure the amount of functional information/complexity required to produce the effect. If the value is statistically significant (i.e., not trivial), then intelligence was required. Significant levels of functional information/complexity are a positive fingerprint of intelligence.

Example: Ribosomal S12, a universal protein required for life, requires at least 359 bits of functional complexity to encode.[3] That level of functional information/complexity is highly statistically significant. Therefore, Ribosomal S12 required intelligence to encode. Similarly for other biological proteins.

Conclusion: The hypothesis above is scientifically testable, verifiable and falsifiable. Using that hypothesis, biological life tests positive for intelligent design. If one wishes to dispute the conclusion, one must actually falsify the hypothesis.

1. Szostak JW: **Functional information: Molecular messages.** *Nature* 2003, **423**(6941):689.
2. Hazen RM, Griffin PL, Carothers JM, Szostak JW: **Functional information and the emergence of biocomplexity.** *Proc Natl Acad Sci U S A* 2007, **104 Suppl 1**:8574-8581.
3. Durston KK, Chiu DK, Abel DL, Trevors JT: **Measuring the functional sequence complexity of proteins.** *Theor Biol Med Model* 2007, **4**:47.