

# Biology/Medicine “Isolation” vs. Science/Chemistry Isolation

*(Clarified from an analytical chemistry and true-science perspective)*

## 1. Biology/Medicine “Isolation” — a Procedural and Interpretive Process

In biology and medicine, *isolation* is **not** the separation of a pure substance.

Their practice generally involves:

- Collecting a patient sample containing thousands of biological materials.
- Adding cell cultures, antibiotics, sera, buffers, and other additives.
- Observing cellular changes and **interpreting** these as evidence of a “virus” or “pathogen.”
- Calling the resulting **mixed lysate** “isolated virus,” even though it contains many uncharacterized components.

This is a **biological procedure**, not a chemical isolation.

It relies on assumptions, cell behavior, and indirect interpretation—not on actual purification or analytical verification.

## 2. Science/Chemistry Isolation — a Precise, Measurable, Physical Requirement

In science—particularly analytical chemistry, physical chemistry, and related foundational sciences—*isolation* means one thing only:

**a purified, tangible substance obtained by separating it from all contaminants.**

True scientific isolation requires:

- A **physical material** independent of surrounding impurities.
- **Purification** using validated chemical methods (chromatography, crystallization, filtration, electrophoresis).
- **Characterization** using analytical techniques (LC-MS, NMR, IR, UV/Vis, elemental analysis, physical constants).
- A **reference standard** with a certificate of analysis for independent verification.

This is the only meaning of isolation in true science.

## 3. The Core Confusion Between the Two Fields

The problem arises because **both fields use the same word**—“isolation”—**but mean entirely different things.**

- **Biology/Medicine:** “Isolation” means performing biological procedures and interpreting results within a mixed sample.
- **Science/Chemistry:** “Isolation” means producing a purified, chemically defined substance.

Biologists and medical experts often **believe they have performed isolation**, and in their framework, they have—**but not in the scientific/chemical sense.**

The confusion occurs when **biological isolation is promoted publicly as if it were chemical isolation**, giving the impression that the substance has been purified, verified, and physically obtained when no such chemical work has been performed.

#### 4. Why This Misalignment Matters

From the standpoint of analytical chemistry, presenting a mixed biological preparation as a purified substance is a **gross misrepresentation** of scientific reality.

Without:

- purification,
- analytical characterization,
- and reference standards,

There is **no scientific evidence** of the claimed entity.

Thus, what Biology/Medicine calls “isolation” and what Science/Chemistry requires for isolation are fundamentally incompatible processes.

#### 5. Summary — Two Different Worlds Using One Word

- **Biology/Medicine isolation:**  
A procedural interpretation performed on mixtures, based on assumptions and cell-culture effects.
- **Science/Chemistry isolation:**  
A purified, tangible material verified by analytical measurements.

Confusing these two creates **false equivalence** and leads to claims that appear scientific but do not meet the standards of actual science.

#### 6. Final Conclusion

For these reasons, the author does **not** consider **Biology or Medicine to be scientific disciplines in the true sense of science**. They remain **procedural and interpretive fields**, separate from the **foundational sciences of chemistry, physics, and mathematics**, which alone demand physical isolation, purification, measurement, and independent verification.

Biology and medicine do not train practitioners as analytical scientists, nor do they follow the methodological requirements that define scientific work. Yet their practitioners are routinely promoted to the public as “scientists” or “science experts.” From a true-science perspective, this represents a **serious misrepresentation of both their professional training and the nature of science itself**.

Until claims in biology and medicine are supported by the same standards required in chemistry—**purified materials, analytical characterization, and validated reference**

**standards**—they remain outside the domain of science. Referring to biological or medical practitioners as “scientists” without meeting these criteria is therefore **incorrect and misleading**.