Basic Molecular Biology: Nucleic Acid Extraction:
Liquid Phase Extraction

When performing liquid-phase nucleic acid extraction, a method called “alcohol precipitation” is used to remove contaminants such as organic solvents, salts, and proteins from a solution containing nucleic acids.

In this method, as the name suggests, alcohol, along with high salt buffer, is used to precipitate the nucleic acid out of the solution.

Ethanol and isopropanol are commonly used in this process.

Ethanol is used to remove salts, and Isopropanol is required to precipitate the nucleic acid.

Add isopropanol and centrifuge the solution to precipitate the nucleic acid as a pellet.

Add ethanol to remove coprecipitated salts and centrifuge to collect the precipitate.

Discard the supernatant.

This nucleic acid pellet is clear, and difficult to observe by eye.

An additional ethanol wash can be completed in order to further purify the nucleic acid.

Discard the ethanol wash solution very carefully as the nucleic acid pellet may dislodge.

After a few washes, remove the residual alcohol by air-drying the pellet.

Then, re-suspend the nucleic acid in nuclease-free water or a suitable buffer.

Link to video job aid: https://reach.cdc.gov/jobaid/basic-molecular-biology-nucleic-acid-extraction-liquid-phase-extraction