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Something You Wanted to Know About DNA Extraction by [James Blee](#)

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Dna extraction is a routine procedure to collect DNA for subsequent molecular and forensic analysis. There are three basic and two optional steps in the procedure. The methods include breaking the cells open, commonly referred to as cell disruption or cell analysis which exposes the DNA lying within, by help of chemical and physical methods. The methods could be blending, grinding or the sample followed by removing membrane lipids by addition of detergents or surfactants. After that, proteins are removed by adding protease which is followed by removal of RNA by adding an R-Nase. The DNA is precipitated with alcohol usually ice-cold ethanol or iso-propanol is used. Since DNA is insoluble in these alcohols it will aggregate together giving a pellet upon centrifugation? This step also removes alcohol-soluble salts.

Refinement of the techniques in DNA extraction includes adding of a chelating agent to sequester divalent cations such as magnesium and calcium ions which prevents enzymes such as Dnase from degrading the RNA. Cellular and histone proteins bound to the DNA can be removed either by the addition of protease or by having precipitated the proteins with sodium or ammonium acetate or by extracting it with a phenol-chloroform mixture after the DNA precipitation. Dna extraction is isolation of all extra chromosomal DNA in a mammalian cell. The process helps in getting rid of the high molecular weight nuclear DNA leaving only low molecular weight mitochondrial DNA and any viral episomes that are present in the cell. A diphenylamine indicator will confirm the presence of DNA when heated in acid; the reaction requires a deoxyribose sugar and therefore is specific for DNA. Under these conditions the deoxyribose is converted to w-hydroxylevulinyl aldehyde which reacts with the compound diphenyl amine to produce a blue colored compound DNA, the concentration can be determined measuring the intensity of absorbance of the solution.

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