DNA extraction from plants – recap

- Smush (“homogenize”) the cells
- Dissolve membranes and solublize DNA in a detergent buffer with nuclease inhibitors
- Remove solids with centrifugation
- Remove proteins with KOAc precipitation
- Precipitate DNA with alcohol
- Remove DNA-bound proteins with phenol-chloroform and chloroform extraction

**Waiter!**

*There’s RNA in my food too...*

DNA

A stable, double helix designed to store information and be chemically unreactive
RNA
A different tale

T. thermophilus - Ramakrishnan et al., Cell, 2002

Figure 4.2
Structure of part of a DNA chain.
Figure 28.3
Pentoses found in nucleic acids.

The purines in DNA are adenine (A) and guanine (G), and the pyrimidines are thymine (T) and cytosine (C).

Figure 28.1
Purines and pyrimidines commonly found in DNA and RNA.
RNA extraction from plants

- Smush (“homogenize”) the cells
- Dissolve membranes and solublize RNA in a detergent buffer with RNAse inhibitors
- Remove solids with centrifugation
- Remove proteins with phenol extraction
- Remove DNA with LiCl precipitation
- Precipitate RNA with alcohol

RNA extraction issues

- Homogenization
- RNAse
- DNA contamination
- pH of phenol