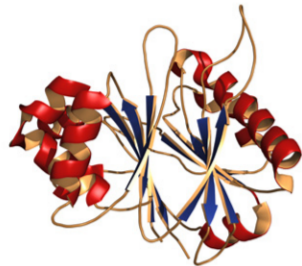


### ABC of Pipette Tip Purity

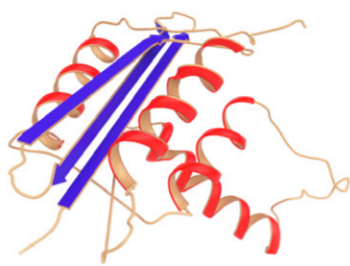
What is contamination and how to avoid it?

What are the common contaminants?



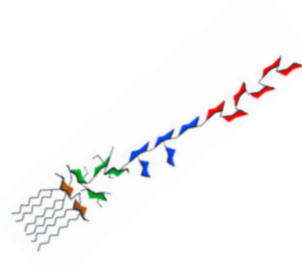
DNase

- Deoxyribonuclease that degrades DNA



RNase

- Ribonuclease that degrades RNA



Endotoxins

- Also known as pyrogens
- Lipopoly-saccharides part of cell membranes in Gram-negative bacteria



Bacteria



DNA



Trace metals

What is the source of contamination?

Production Environment  
Human contact in production

Injection molding

Raw material

What is the effect on samples?

- Loss of yield in DNA extraction, in PCR and cloning

- Sample loss in ctPCR and translational studies

- Causes fever in human and animals
- Affect growth and well-being of cells in cell-based assays

- Contaminate all kinds of assays with growth and metabolites

- False results in PCR/qPCR and cloning

- False results in trace metal analysis
- Affect growth and well-being of cells

Removal from tips in lab conditions?



- Yes
- Autoclave



No



No



- Yes
- Autoclave



No



No

High quality raw material

Clean room manufacturing  
Automated production without human contact

High quality, diamond polished tip molds

Which product to choose to avoid contamination?

High quality standard or filter tips in single tray rack

High quality standard or filter tips in single tray rack

High quality standard or filter tips in single tray rack

High quality sterile standard or filter tips. Standard tips can also be autoclaved for sterility.

High quality standard or filter tips in single tray rack

High quality tips

Questions to ask when choosing pipette tips:

- What are the certificates of tip purity I need for my workflow?
- Is the purity of tips tested with low enough detection limits? (DNase, RNase & endotoxin)
- What is the sterility assurance level of sterile tips? Is the sterility procedure regularly validated?
- Do the pipettes I use support the purity of my samples?
- Are the tips & pipettes best fit to prevent leakage & splashing?
- Are the pipettes easy-to-clean and autoclave?

Find out more about contamination free pipetting and other topics in Pipetting Academy webpage!

→ [www.sartorius.com/pipetting-academy](http://www.sartorius.com/pipetting-academy)

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