Sample storage

Essential for DNA integrity

Maximize DNA recovery and minimize loss while enabling accurate results

Introduction

DNA integrity is critical for any genomics workflow, and scientists rely on products to help reduce loss of sample DNA. Thermo Scientific™ Low DNA Binding Snap Cap Microcentrifuge Tubes are designed without the use of per- and polyfluoroalkyl substances (PFAS) to help minimize DNA sample loss. Also available as a more sustainable option, the Thermo Scientific™ Low DNA Binding Snap Cap Microcentrifuge Tubes, Sustain™ Series not only help ensure high-quality performance, but also align with sustainable practices, helping make them a reliable and more sustainable choice for your laboratory needs.

Features

Flexible cap collar

- Easy one-hand operation
- Secure seal for leak-proof closure
- Engineered to withstand repeated uses without compromising integrity

A range of capacities

- Volumes (0.6, 1.5, and 2.0 mL)
- Non-sterile

Quality claims

- Free of human DNA
- Free of PCR inhibitors
- Free of UV leachables
- Free of PFAS

More sustainable

- Biobased polypropylene resin
- ISCC PLUS certification

Learn more about ISCC PLUS certification

Claims that Low DNA Binding Snap Cap MCTs, help maximize DNA integrity

The importance of low–DNA binding microcentrifuge tubes (MCTs) cannot be overstated. These tubes are specifically engineered to help minimize the adhesion of DNA to the tube walls, which is crucial in preserving the quantity and quality of DNA samples during various laboratory procedures. Figure 1 demonstrates the low–DNA binding capacity of these tubes, which enables maximum DNA recovery, helping reduce the risk of sample loss and contamination. This is particularly vital in applications such as PCR, sequencing, and cloning, where even small losses can significantly impact the results. Furthermore, it is critical that the tubes are free from contaminants such as human DNA, as illustrated in Figure 2, and free from UV leachables, as shown in Figure 3. Additionally, Table 1 demonstrates the absence of PCR inhibitors, helping ensure that these tubes provide optimal performance in sensitive genomics workflows. Low DNA Binding Snap Cap Microcentrifuge Tubes were designed to address these needs for genomics workflows.

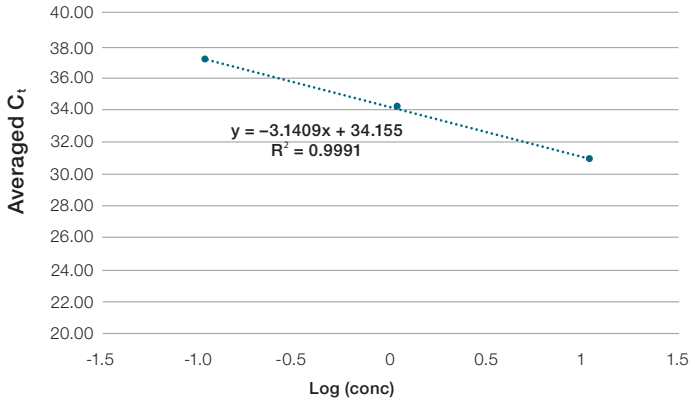


Figure 1. Low DNA binding. PCR efficiency of >75% was achieved after samples comprising 100, 10, and 1 copies of gDNA were stored at –80°C for 24 hr.

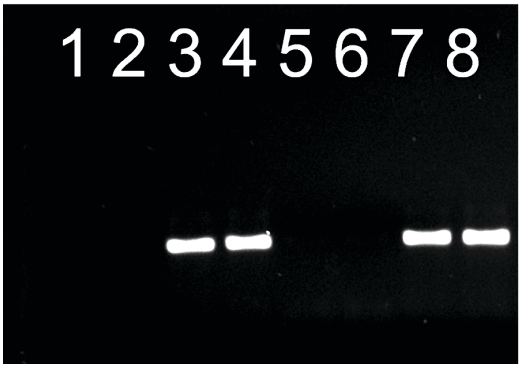


Figure 2. Free of human DNA. Portions of sample extracts were incubated with PCR reagents and human-specific primers along with proper experimental controls. Reactions were run for 32 cycles and evaluated for human DNA contamination via gel electrophoresis. The resulting data verified human DNA levels are less than 1 pg. Lanes 1 and 2, negative control. Lanes 3 and 4, positive control. Lanes 5 and 6, test samples. Lanes 7 and 8, product inhibition test.

Table 1. Free of PCR inhibitors. Genomic DNA samples with concentrations 0.1, 0.01, and 0.001 ng/µL were tested using water from MCTs incubated at 95° for 1 hr. The Low DNA Binding Snap Cap Microcentrifuge Tubes performed similarly to Corning™ Costar ™ tubes (ΔC_t is near 0), and did not inhibit DNA amplification even at the 0.001 ng/µL concentration.

	DNA (ng/µL)		
Concentration	**0.1**	**0.01**	**0.001**
ΔC_t	0.044	0.043	-0.095

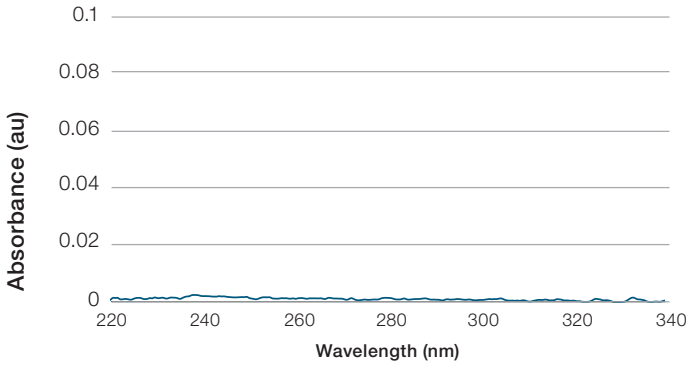


Figure 3. Free of UV leachables. UV absorbance of water after 16–18 hr incubation at 65°C in Low DNA Binding Snap Cap Microcentrifuge Tubes, Sustain Series was measured at <0.02 au (220 and 230 nm) and <0.01 au (260 and 280 nm) . Absorbance measurements indicated the samples were free of UV leachables.

More sustainable alternative

The Low DNA Binding Snap Cap Microcentrifuge Tubes, Sustain Series offer a greener solution for laboratory researchers in biotech, pharma, and forensics. The microcentrifuge tubes are made from biobased polypropylene allocated on a mass balance basis derived from second-generation waste and residue oils. Biobased polypropylene is also chain-of-custody certified by the International Sustainability and Carbon Certification (ISCC) PLUS system. As a result, each kilogram of biobased plastic used in the microcentrifuge tubes reduces greenhouse gas emissions by 3.43 kg carbon dioxide equivalents.* By choosing these more sustainable tubes, customers can reduce their carbon footprint, support their Scope 3 emission reduction targets, and contribute to a circular economy, all while maintaining the same performance standards as fossil fuel–based alternatives.

* Product carbon footprint data provided by the manufacturer of the biobased polypropylene resin. Fossil-based polypropylene has a cradle-to-gate footprint of 1.75 kg CO2e/kg of resin. Biobased polypropylene has a footprint of –1.68 kg CO2e/kg of resin. This includes cradle-to-gate fossil-based emissions (0.96 kg CO2e/kg), biogenic emissions (0.77 kg CO2e/kg), and biogenic removals (–3.41 kg CO2e/kg).

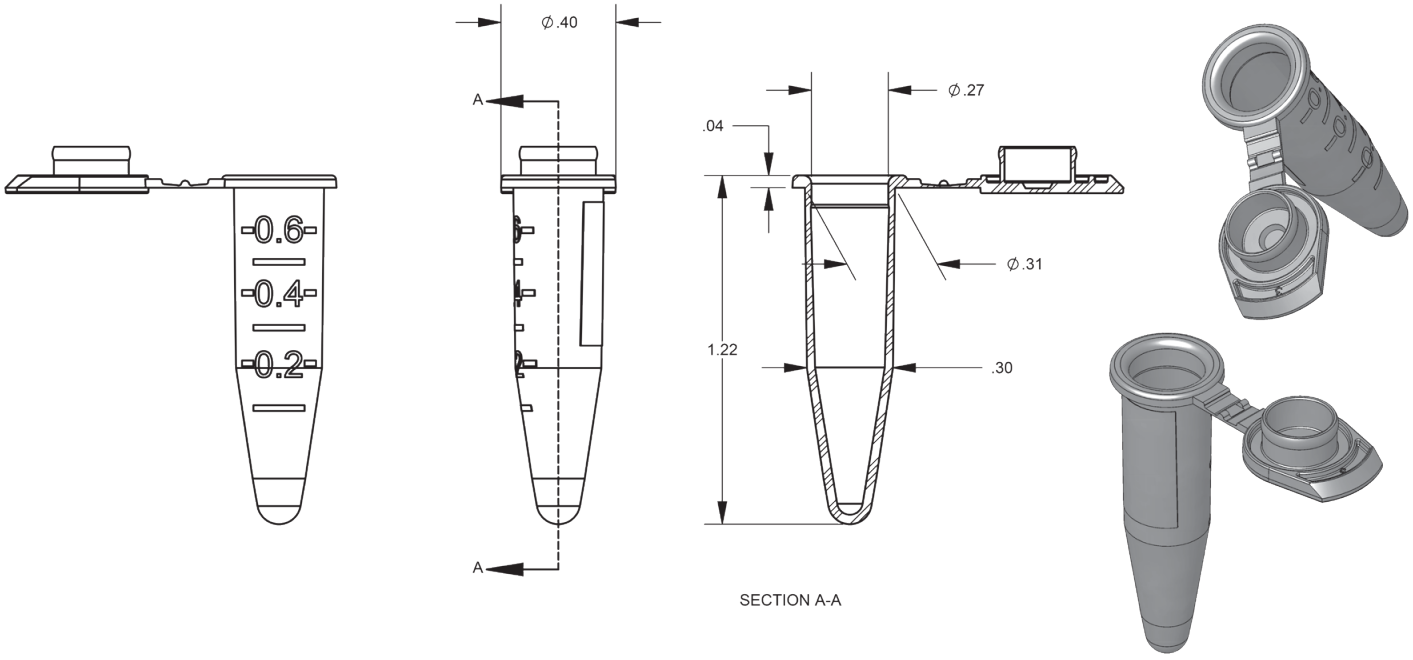
Product: 0.6 mL Low DNA Binding Snap Cap MCTs

Description	Sterility and packaging description	Packaging quantity and case dimensions	Cat. No.
0.6 mL graduated, low DNA binding	**Non-sterile:** 1,000/pk, 10 pk/cs, 10,000/cs	**Quantity:** 1,000/pk, 10 pk/cs, 10,000/cs	3403-DLB
		Imperial dimensions: 15.3 lb; 25 x 14 x 10.5 in.	
		Metric dimensions: 6.94 kg; 63.5 x 35.6 x 26.7 cm	
0.6 mL graduated, low DNA binding, biobased resin	**Non-sterile:** 1,000/pk, 10 pk/cs, 10,000/cs	**Quantity:** 1,000/pk, 10 pk/cs, 10,000/cs	3400-DLB
		Imperial dimensions: 15.3 lb; 25 x 14 x 10.5 in.	
		Metric dimensions: 6.94 kg; 63.5 x 35.6 x 26.7 cm	

Tube dimensions

Unit of measurement	Tube height without cap	Tube height with cap	Tube diameter
Imperial measurement	1.22 in.	1.28 in.	0.30 in.
Metric measurement	3.10 cm	3.25 cm	0.75 cm

0.6 mL Low DNA Binding Snap Cap MCT



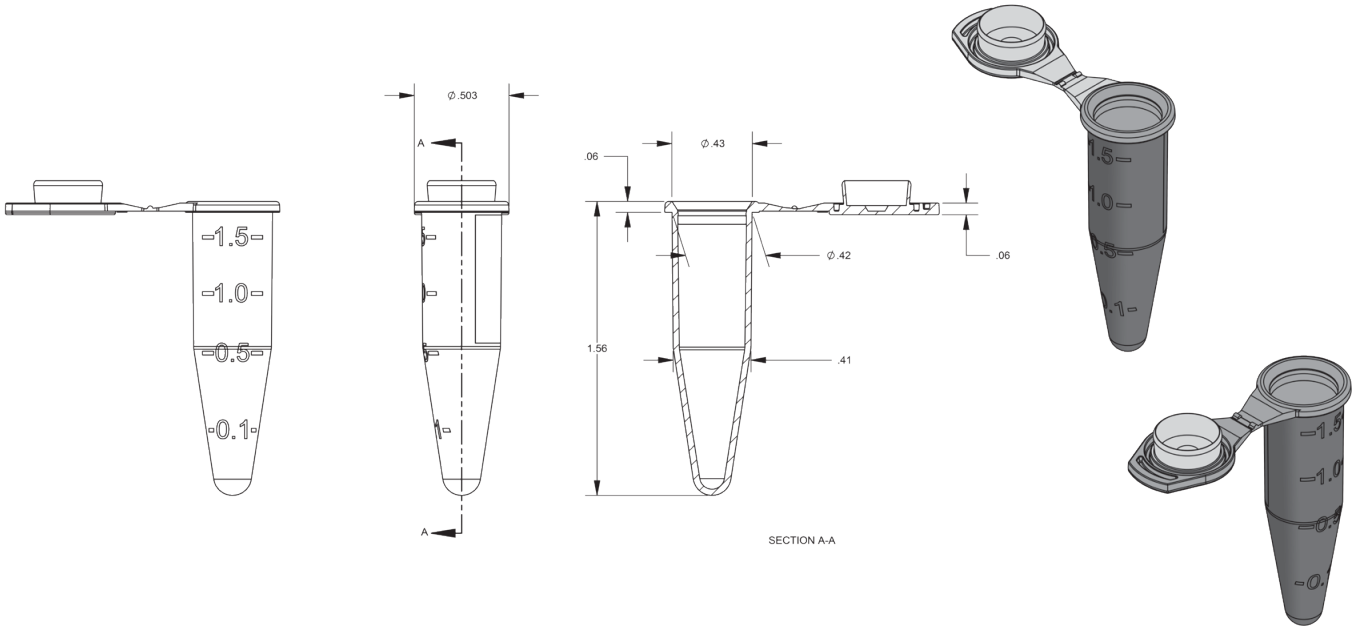
Product: 1.5 mL Low DNA Binding Snap Cap MCTs

Description	Sterility and packaging description	Packaging quantity and case dimensions	Cat. No.
1.5 mL graduated, low DNA binding	**Non-sterile:** 500/pk, 10 pk/cs, 5,000/cs	**Quantity:** 500/pk, 10 pk/cs, 5,000/cs	3404-DLB
		Imperial dimensions: 15.9 lb; 25 x 14 x 10.5 in.	
		Metric dimensions: 7.2 kg; 63.5 x 35.6 x 26.7 cm	
1.5 mL graduated, low DNA binding, biobased resin	**Non-sterile:** 500/pk, 10 pk/cs, 5,000/cs	**Quantity:** 500/pk, 10 pk/cs, 5,000/cs	3401-DLB
		Imperial dimensions: 15.9 lb; 25 x 14 x 10.5 in.	
		Metric dimensions: 7.2 kg; 63.5 x 35.6 x 26.7 cm	

Tube dimensions

Unit of measurement	Tube height without cap	Tube height with cap	Tube diameter
Imperial measurement	1.56 in.	1.62 in.	0.43 in.
Metric measurement	3.96 cm	4.11 cm	1.04 cm

1.5 mL Low DNA Binding Snap Cap MCT



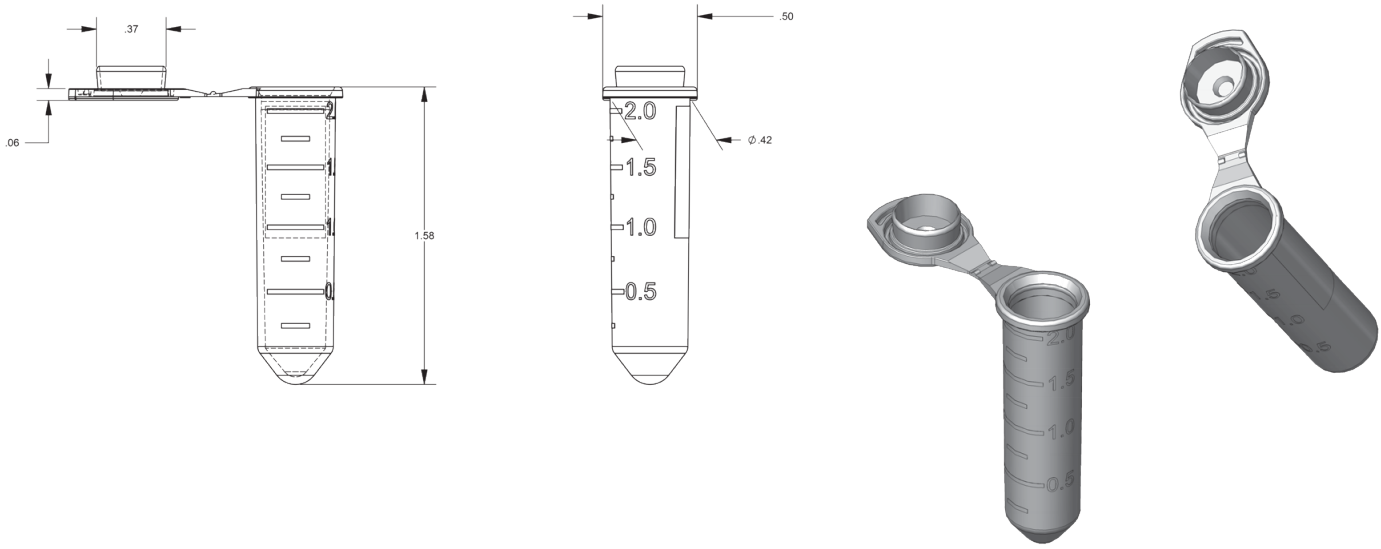
Product: 2.0 mL Low DNA Binding Snap Cap MCTs

Description	Sterility and packaging description	Packaging quantity and case dimensions	Cat. No.
2.0 mL graduated, low DNA binding	**Non-sterile:** 500/pk, 10 pk/cs, 5,000/cs	**Quantity:** 500/pk, 10 pk/cs, 5,000/cs	3405-DLB
		Imperial dimensions: 18.1 lb; 25 x 14 x 10.5 in.	
		Metric dimensions: 8.2 kg; 63.5 x 35.6 x 26.7 cm	
2.0 mL graduated, low DNA binding, biobased resin	**Non-sterile:** 500/pk, 10 pk/cs, 5,000/cs	**Quantity:** 500/pk, 10 pk/cs, 5,000/cs	3402-DLB
		Imperial dimensions: 18.1 lb; 25 x 14 x 10.5 in.	
		Metric dimensions: 8.2 kg; 63.5 x 35.6 x 26.7 cm	

Tube dimensions

Unit of measurement	Tube height without cap	Tube height with cap	Tube diameter
Imperial measurement	1.59 in.	1.65 in.	0.42 in.
Metric measurement	4.03 cm	4.19 cm	1.06 cm

2.0 mL Low DNA Binding Snap Cap MCT



Attribute	Description
Non-sterile	Non-sterile validated, human DNA <0.03 pg/µL, RNase <1 x 10^{-9} Kunitz units/µL, DNase <1 x 10^{-7} Kunitz units/µL, endotoxin (pyrogen) <0.6 EU/mL
Bisphenol A (BPA)-free	BPA has not been used in the manufacturing process of the plastic.
Leachables/extractables	Manufactured without the use of slip agents, plasticizers, phthalates, and biocides.
European Directive 2015/863/EU, RoHS compliance	**In compliance with Restriction of Hazardous Substances (RoHS), our material suppliers do not use or intentionally incorporate the following components during the manufacturing process:** cadmium, lead, mercury, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyl ethers (PBDE), bis(2-ethylhexyl) phthalate (DEHP), butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), and diisobutyl phthalate (DIBP).
Chemical compatibility of plastic	Refer to the Labware Chemical Resistance Table.

Manufacturing specifications

Specification	Description
ISO	Certified ISO 9001 and ISO 13485; certificate available upon request
CE-IVD	No
Medical device/medical grade	No
Warranty	1 year
Recommended shelf life	5 years
Product storage	Store product in ambient, dry conditions
Product use	Laboratory, single-use only
General quality statement	Statement available upon request

Learn more at **thermofisher.com/low-dna-binding-mct**

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