Lab & Production Materials

Amplified Innovation, Amplified Impact

The Molecular Diagnostics Ultra pure Portfolio for Diagnostic Test Development

### **Molecular Diagnostics**

Molecular diagnostics is rapidly evolving, highlighting the growing need for innovative raw materials for use in the detection and treatment of various diseases. With challenges such as complex sample preparation, high cost, and the need for advanced technologies, let us take something off your list. Never question the integrity of your core raw materials. Count on reliable, expert support and results from our innovative and high-quality Molecular Diagnostics Ultra pure Portfolio and the newly introduced Ultra pure JumpStart™ Taq DNA Polymerase, Ultra pure PCR Reagents, and Ultra pure MaqPrep® Viral RNA & cfDNA Isolation Kits.

#### **Introducing The Ultra pure Portfolio**

Unlike its predecessors, the new portfolio undergoes meticulous purification at our MQ-300 quality level, significantly reducing DNA, nickase, DNase, and RNase contamination. This ensures minimal risk of false results caused by contaminated reagents. Our molecular raw materials are manufactured in ISO-9001 facilities, making them an exemplary choice to enhance the accuracy of your diagnostic assays.

## **Ultra pure JumpStart™ Taq DNA Polymerase**

Used for efficient and accurate DNA amplification in various molecular biology applications, including PCR, genotyping, cloning, and DNA sequencing, Ultra pure JumpStart™ Taq DNA Polymerase is:

- Free from DNA, DNase, RNase, nickase, and endonuclease contamination reducing the risk of both false positive and negative results
- Reduces nonspecific amplification and primer-dimers
- Features an antibody-inactivated hot-start mechanism, minimizing non-specific amplification while increasing target yield



- Convenient setup with reduced contamination risk compared to manual hot-start techniques
- Allows for room-temperature PCR set up
- Maintains the same performance as JumpStart™ Taq DNA Polymerase

Cat. No.	Product Description	Pack Size
UPJSTAQ	Ultra pure JumpStart™ Taq	1.5KU

#### **Ultra pure RT-PCR Reagents**

Useful for the amplification and detection of RNA targets, enabling gene expression analysis, viral load quantification, and detection of RNA-based pathogens the Ultra pure PCR reagents are:

- Highly pure and free from DNA, DNase, RNase, nickase, or endonuclease contamination
- Rigorous purification and testing using a sensitive PCR assay with universal primers targeting 16S, 18S, and Origin of Replication DNA
- RT-PCR reagents with low DNA requirements:
  - Prokaryotic DNA: ≤ 1 copy using universal 16s primers, detecting 514,172 prokaryotic genomes
  - Eukaryotic DNA: ≤ 0.1 copy using universal 18s primers, detecting 110,032 eukaryotic genomes
  - Plasmid DNA: ≤ 10 copies using universal origin of replication primers, detecting 25,920 unique plasmids

Cat. No.	Product Description	Pack Size
UPMGCL2	Ultra pure 25mM MgCl <sub>2</sub>	1.5 mL
UPH2O	Ultra pure DNA free water	1.5 mL
UPTQBF1	Ultra pure 10X Taq buffer with MgCl <sub>2</sub>	1.5 mL
UPTQBF2	Ultra pure 10X Taq buffer w/o MgCl₂	1.5 mL

# Ultra pure MagPrep® Viral RNA & cfDNA Isolation Kits & Components

Our cfDNA Isolation Kit is used for the isolation of cellfree DNA from blood for liquid biopsy and our Viral RNA Isolation Kit is used for the isolation of viral RNA from biological samples like nasal swabs. The components of these kits, which include MagPrep® particles and reagents are:

- Free from DNA, DNase, RNase, nickase, and endonuclease contamination reducing the risk of false-positive results
- Automation friendly
- Fast simple protocol (< 30 mins)
  - No Proteinase K or heat needed
- Ambient storage
- High capacity (bind 2 µg cfDNA/mg)
- Sensitivity matches or beats top competitors
- · Consistent yields

Cat. No.	Product Description	Pack Sizes
UPMPVRNA-KT	Ultra pure MagPrep® Viral RNA Isolation Kit	1 Kit
UPMPCFDNA-KT	Ultra pure MagPrep® cfDNA Isolation Kit	1 Kit
UPMPPART	Ultra pure MagPrep® Magnetic Particles	10ML 20ML
UPMPVRBB	Ultra pure MagPrep® Viral RNA Lysis and Binding Buffer	200ML 400ML
UPMPCFDBB	Ultra pure MagPrep® cfDNA Binding Buffer	250ML 500ML
UPMPWB1	Ultra pure MagPrep® Wash Buffer 1	300ML 500ML
UPMPWB2	Ultra pure MagPrep® Wash Buffer 2	300ML 500ML
UPMPEB	Ultra pure MagPrep® Elution Buffer	100ML 200ML

Step up to amplify confidence and assurance from collection to detection.

Amplify your outcomes at SigmaAldrich.com/MolecularDx

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