Twist Assay Ready Synthetic Controls

STORAGE AND USE GUIDELINES

Twist Bioscience Assay Ready Control products can be used as positive, limit of detection, or negative controls for assay development and routine testing which requires robust and consistent nucleic acid controls used in both next-generation sequencing (NGS), or nucleic acid amplification tests (NAATs) such as reverse transcription quantitative polymerase chain reaction (RT-qPCR), digital PCR, or isothermal amplification assays. The synthetic nature of the controls allow for safe, non-infectious use, requiring only a BSL-1 safety certification.

Assay Ready Controls are supplied in a desiccated pellet format that includes a nucleic acid stabilizer which enables greater stability and ease of use during the shipping and protocol processes. Due to the enhanced stability, they can be shipped at room temperature, reducing the cost and improving the accessibility. The Assay Ready Controls are supplied at convenient copy numbers to resuspend to target concentration and perform serial dilutions.

The Assay Ready Controls are in a one-time-use format limiting the chance of any accidental contamination or degradation of material. Although the controls are stable under most standard laboratory storage conditions, it is important to consider the following best practices to maintain the highest possible quality and prevent degradation.

For Research Use Only. Not for use in diagnostic procedures

QUESTIONS?
Get in touch at **customersupport@twistbioscience.com** or learn more at **twistbioscience.com**

Assay Ready Controls in Various Applications

The stable dried down RNA pellet will appear blue due to the inclusion of an inert dye; at low resuspension volumes, this blue color will remain visible but may lighten at higher resuspension volumes. The coloration will not impact these downstream applications:

- Reverse transcription
- PCR amplification
- Nucleic Acid Amplification Tests (NAATs) such as RT-qPCR, Digital PCR, or Isothermal Amplification assays
- Hybrid capture-based next generation sequencing
- Sanger sequencing

Best Practices for Working with Twist Assay Ready Controls

- Assay Ready Controls are shipped at ambient temperature and should be stored at -20°C upon receipt.
- The controls are intended for one-time use only.
- RNA controls should be kept on ice while in use, as RNA is easily degraded.
- Use only RNase-free consumables when handling this product.
- Before using, briefly centrifuge the tube to pellet RNA at the bottom on the tube and resuspend in RNase-free Water.
- A resuspension volume of 50–200 µl is recommended. To determine the nucleic acid copy number per micorliter, divide the total number of copies per tube listed on the label (typically 2 million) by the resuspension volume added to the tube in microliters to at the copies per microliter in solution.
- Gently pipette mix or vortex to resuspend.
- Note: the stable dried down format includes Tris-EDTA (TE) buffer at pH 8.0. Adding additional TE could impact downstream assays.

Example qPCR data

To demonstrate the compatibility of the Twist Assay Ready Control with downstream assays, multiple tubes of the Twist SARS-CoV-2 Assay Ready Control 2 in different volumes of RNase-free water. The figure below represents a dilution series of the Twist Assay Ready Synthetic SARS-CoV-2 RNA Control 2 in the CDC 2019-Novel Coronavirus (2019-nCoV) Real-Time RT-PCR Diagnostic Panel (Catalog # 2019-nCoVEUA-01) showing correlation of measured and expected copies per µL.