***REVISED** 12/26/2024*

HSC.34357 Nucleic Acid Extraction/Isolation/Purification **Phase II**

Nucleic acids are extracted, isolated, and purified by methods reported in the literature, by an established commercially available kit or instrument, or by a method validated by the laboratory.

NOTE: Extraction procedures may combine purification or isolation of nucleic acids according to the level of purity needed for downstream applications.

Evidence of Compliance:

- ✓ Records to support nucleic acid extraction/isolation/purification is performed by a validated method

REFERENCES
1) Sambrook J, *et al*. Molecular cloning: A laboratory manual, second edition. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, 1989:E.3-E.4

HSC.34544 Reverse Transcription **Phase II**

For RNA amplification methods, appropriate controls are used for reverse transcription.

***REVISED** 12/26/2024*

HSC.34731 Specimen Preservation/Storage **Phase II**

The laboratory uses established methods for specimen preservation and storage before testing.

NOTE: Patient samples may be stored in a frost-free freezer only if protected from thawing.

- *Repeated freeze-thaw cycles contribute to biomolecular degradation and are detrimental to biospecimen quality.*
- *It is prudent to avoid freeze-thaw altogether by aliquoting specimens before freezing.*
- *Peripheral blood specimens should not be frozen, unless otherwise validated, because induced hemolysis can result in PCR inhibition through the presence of contaminating hemoglobin.*

REFERENCES
1) Rainen L, *et al.* Stabilization of mRNA expression in whole blood samples. *Clin Chem.* 2002;48:1883-1890

HSC.34760 Dedicated Pipettes **Phase II**

Dedicated pipettors are used for pre-amplification procedures.

***REVISED** 12/26/2024*

HSC.34918 Nucleic Acid Quantity and Quality Determination **Phase II**

The quantity and quality of nucleic acids are determined, when appropriate.

NOTE: The quantity and quality of nucleic acids (DNA or RNA) must be measured prior to use in a procedure whose success depends on accurately determining the quantity, concentration, integrity, and/or purity of the nucleic acids. Techniques commonly used to assess nucleic acid quantity and/or quality include electrophoresis, UV/VIS spectrophotometry and fluorescence spectroscopy.

Evidence of Compliance:

- ✓ Defined conditions under which quantity and/or quality of nucleic acid are measured **AND**
- ✓ Records of nucleic acid quantity and/or quality determinations