Ribonuclease-free conditions are maintained for all assays that detect RNA or use an RNA probe.

NOTE: RNA is extremely susceptible to degradation by ribonucleases that are ubiquitous in the environment. To ensure preservation of target RNA or RNA probes, special precautions are needed.

Evidence of Compliance:

- ✓ Records that RNase-free conditions are maintained (ie, wipe test in event of contamination incident) with corrective action if conditions are not met

REFERENCES
1) Gulley ML, *et al*. Guidelines for interpreting EBER *in situ* hybridization and LMPI immunohistochemical tests for detecting Epstein-Barr virus in Hodgkin lymphoma. *Am J Clin Pathol. 2002*;117:259-267

BAP.05200 Carryover - Nucleic Acid Amplification **Phase II**

Nucleic acid amplification procedures (eg, PCR) use appropriate physical containment and procedural controls to minimize carryover (false positive results).

NOTE: This item is primarily directed at ensuring adequate physical separation of pre- and post-amplification samples to avoid amplicon contamination. The extreme sensitivity of amplification systems requires that special precautions are taken. For example, pre- and post-amplification samples should be manipulated in physically separate areas; gloves must be worn and frequently changed during processing; dedicated pipettes (positive displacement type or with aerosol barrier tips) must be used; and manipulations must minimize aerosolization. Enzymatic destruction of amplification products is often helpful, as is real-time measurement of products to avoid manual manipulation of amplification products.

REFERENCES
1) Clinical and Laboratory Standards Institute (CLSI). *Establishing Molecular Testing in Clinical Laboratory Environments*: CLSI document MM19-A. Clinical and Laboratory Standards Institute, Wayne, PA, 2011.

BAP.05300 Internal Controls Nucleic Acid Amplification **Phase II**

In nucleic acid amplification procedures, internal controls are run to detect a false negative reaction secondary to extraction failure or the presence of an inhibitor, when appropriate.

NOTE: The facility should be able to distinguish a true negative result from a false negative due to failure of extraction or amplification. Demonstration that another sequence can be successfully amplified in the same specimen should be sufficient to resolve this issue. For quantitative amplification assays, the effect of partial inhibition must also be addressed.

The internal control should not be smaller than the target amplicon. There are some rare exceptions to this rule due to sequence length and design. In this situation the internal control should not be more than 10% smaller than the target amplicon and the use of a smaller internal control should be justified.

Evidence of Compliance:

- ✓ Records of assay validation and monitoring statistics for test result trends

CELL FRACTIONATION

The purpose of cell fractionation is to obtain a pure sample of part of the original whole, such as mitochondria, plasma membranes, DNA, RNA, soluble proteins or even specific macromolecules. There are many procedures defined for each target material, such as tissue, plant cells, animal cells, cell membranes and molecular

components. Fractionation can simply be the separation of components of a biospecimen, such as blood into white blood cells, serum, and red blood cells.

Inspector Instructions:

	• Sampling of cell fractionation policies and procedures
	• System to maintain the identification of the derivatives to the parent biospecimen • Cell fractionation process follows the steps in the procedure
	• How is the quality of the cell fractionation process ensured?

BAP.05303 Specimen Identification **Phase II**

Derivatives from fractionation of biospecimens maintain the identification associated with the parent biospecimen during the fractionation process.

NOTE: Records of specimen type, handling conditions, and, if applicable, storage information are elements of the identification that are maintained until the process is complete. If anonymity from the parent biospecimen is required, this can be accomplished after the fractionation is complete.

BAP.05306 Cell Fractionation **Phase II**

The biorepository follows a defined process for all steps in the cell fractionation process.

NOTE: Deviations from the manufacturer instructions must be validated and recorded.

BAP.05309 Quality Control/Quality Assurance **Phase II**

Biorepositories performing cell fractionation record all quality control and quality assurance measures.

NOTE: These measures would include the establishment of validation sets performed by the laboratory to establish consistent success in quality fractionation and where possible, enrollment in proficiency testing or performance of alternative assessment to demonstrate expertise and quality fractionation.