



Intermountain Forensics

SOP #

AMP-204

Revision #

02

Forensic DNA Technical Leader Approval

Issue Date

03/01/2023

Post Quantification Normalization

1. Purpose

To provide directions for sample normalization for amplification, based on quantification data.

2. Summary

After quantification, a sample may be normalized to a specific target by manual dilution or may continue processing without any further manipulation based on the quantity of DNA detected and the desired input amount of DNA into the amplification reaction mixture.

3. Procedure

1. Post-Quantification normalization is determined based on the DNA quantification value obtained during the quantitation step and the additional testing being performed.
 - a. Recommended input values are derived from validation and are available in the laboratory's processing policy.
 - b. Analyst modification to input values is recommended in samples where mixtures, degradation and/or inhibition is suspected. Modification may also be made based upon the results for the calibrator results obtained during the quantitation of the DNA samples being amplified.
2. Normalization instructions are given from the Case Analyst based on the principal of $C1V1=C2V2$.
 - a. C1= The concentration obtained from Quantification
 - b. V1= The sample volume used for the quantification concentration (1 μ l)
 - c. C2= The concentration required for the amplification target. (Target / Kit sample input volume)
 - d. V2= Kit sample input volume
3. Normalization Actions:
 - a. STOP= Sample will not be amplified. (Zero quantification value obtained)
 - b. AMP= No normalization required. Kit specific volume of sample is used for amplification. (V1 \ge 14)
 - c. Dilution= A dilution of the sample will be made in a separate tube. (V1<14)
 - i. Samples with C1 concentrations higher than the target concentration will have a dilution made.
 - ii. The dilution of the sample will be documented on the Quant Decisions tab of the DOC-307 Case Chronicle, if no modifications are made by the Case Analyst, or on the Amp tab of the DOC-307 Case Chronicle, if there are modifications made by the Case Analyst.
 - iii. Dilutions are made by combining the volumes of water and DNA sample documented in the DOC-307 Case Chronicle in a new tube, which has been labeled with the sample identification number_norm (example: IMF-23-00001-01-01-A_norm).



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Sara E Walker

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4. *References*

N/A

5. *Definitions*

N/A