



Intermountain Forensics

SOP #	RGT-200
Revision #	06
Issue Date	
08/01/2022	

Forensic DNA Technical Leader Approval

Dave E. Buter

Reagents

1. Purpose

This document details procedures for reagent receiving, barcode naming convention and critical reagent identification.

2. Summary

Reagents are received and logged by manufacturer lot number. The lot number and expiration date are used to create a unique barcode for the lot. Procedure for reagent receiving, labeling, function, expiration and critical nature is described.

3. Procedure

1. Reagent Receiving
 - a. Add the new reagent(s) to the Reagent Log
 - b. If successfully completion of a Quality Control Check has been documented for that lot number, indicate the completion in the appropriate column. Store the reagent(s) in the proper location.
 - c. If the lot number has not already been received, clearly mark the packaging that lot evaluation is required and store the reagent(s) in the proper location.
2. Reagent Preparation
 - a. When preparing any reagent, the initials of the preparer and expiry date of the reagent must be displayed on the reagent label
 - i. Note: Affixing a barcode per the instructions below will suffice to meet this requirement.
3. Reagent Barcodes
 - a. The individual who opens the reagent for use or to QC is responsible for generating and affixing the barcode prior to use
 - i. A barcode may not be affixed if a manufacturer provided equivalent is available (i.e., RFID tag)
 - b. Barcode Naming Convention for purchased reagents-**Name of Reagent- Lot #- Expiration Date** (Ex: **EZ1-16305115-EXP 9/16/20**)
 - i. For reagents that are bundled together by the manufacturer, use the bundle Lot number.
 - c. Barcode Naming Convention for prepared reagents: **Name of Reagent - Initials of Preparer – Expiration Date** (Ex: **TE – ABC – 9/16/20**)
4. Quality Control Check (QC)
 - a. Reagents designated as **Critical** require QC.
 - b. QC is performed by testing the reagent with a known sample.
 - c. QC must be performed on a newly received lot before it is used for casework.
 - i. QC results must fall within established limits or be approved and documented by the DNA Technical Leader



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- d. Completion of the results of the QC check must be retained
 - i. Serology QC check documentation is retained in the case notes of each case the reagent is utilized
 - ii. DNA QC check data is retained, and the results of the data review are documented in the Reagent Log.
- 5. Making Reagent Working Solutions:
 - a. When multiple reagents are combined to make a Working Solution, the expiration date should be as listed in the reagent chart below or the earliest expiration date of the parent reagents, whichever is occurs sooner.
- 6. Reagent Storage and Use:
 - a. Follow the reagent storage and handling requirements from the manufacturer.
 - i. They are typically found on the packaging.
 - ii. If requirements are not found on the packaging, consult with the manufacturer.
 - b. Reagents may only be used on casework if not expired.
 - c. Expired reagents may be used for training.
 - d. Any reagents in the Identification Lab must remain in the room unless decontaminated prior to removal.

7. Reagent Chart:

Kit	Reagent	Barcode Name	Critical?	Expiration Info	Source(s)
---	TE	TE	N	1 Year (or date if provided by mfg)	Fisher Bioreagents
---	Water	H2O	N	5 Years if purchased or 2 years after filtration	University of Utah (Filtered)
---	DTT Powder	DTTP	N	1 year	RPI Research Products
	DTT Solution	DTTS	N	Earliest expiration of components	Working Solution
M-VAC	Sterile Collection Solution	SCS	N	1 year (or date if provided by mfg)	M-Vac Systems, Inc.
EZ1 Investigator	Cartridge, ProK, cRNA, 11mL G2	EZ1	N	Expiration Date on Q-card or packaging	Qiagen
	cRNA Solution	cRNA	N	3 Months	Working Solution
	ATL Buffer	ATL	N	Expiration Date on Q-card or contact Qiagen	Qiagen
	Diluted ATL	dATL	N	Expiration of earliest dATL component	Working Solution
RSID	RSID Semen, RSID Saliva	RSIDSem, RSIDSal	N	Expiration date printed on inner packaging	Independent Forensics



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Phenolphthalein Presumptive Blood Test Kit	Phenolphthalein	Phenol	N	1 Year from receipt	Tri Tech Forensics
	MTL Buffer	MTL	N	Expiration Date on Q-card or contact Qiagen	Qiagen
	G2 Buffer 260mL	G2	N	Expiration Date on Q-card or contact Qiagen	Qiagen
Bones/Teeth	0.5M EDTA	EDTA	N	Expiration on bottle	Teknova
	3M NaOAc	NaOAc	N	Expiration on bottle	Teknova
Quantiplex Pro	Primer Mix, Reaction Mix, Control DNA, Dilution Buffer	QPP	Y	Expiration date on kit.	Qiagen
	Control Dilution	QPPS	N	2 Weeks	Working Solution
Quant Trio	Primer Mix, Reaction Mix, Control DNA, Dilution Buffer	QTrio	Y	Expiration date on outer sleeve.	ThermoFisher
	Control Dilution	QTS	N	2 Weeks	Working Solution
Globalfiler	Primer Mix, Reaction Mix, Positive Control, Allelic Ladder	GF	Y	Expiration date on outer sleeve.	ThermoFisher
	Positive Control Dilution	GFPC	N	2 Weeks	Working Solution
	GeneScan™ 600 LIZ™ Size Standard v2.0	LIZ600	Y	Expiration date on package	ThermoFisher
Globalfiler Express	Primer Mix, Reaction Mix, Positive Control, Allelic Ladder	GFE	Y	Expiration date on outer sleeve.	ThermoFisher
	Prep-n-Go	PnG	N	Expiration date on box	ThermoFisher
Investigator 24Plex	Primer Mix, Reaction Mix, DNA Size Standard 24plex (BTO), Positive Control, Allelic Ladder	INV	Y	Expiration date on box	Qiagen
	Positive Control Dilution	INVPC	N	2 Weeks	Working Solution
Investigator Go!	Primer Mix, Reaction Mix, DNA Size Standard 24plex (BTO), Positive Control, Allelic Ladder	INVGO	Y	Expiration date on box	Qiagen
YFiler Plus	Primer Mix, Reaction Mix, Positive Control, Allelic Ladder	YFP	Y	Expiration date on outer sleeve.	ThermoFisher
3500	Anode Buffer	N/A	N	Expiration date built into RFID tag	ThermoFisher
	Cathode Buffer	N/A	N	Expiration date built into RFID tag	ThermoFisher



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	Pop 4	N/A	N	Expiration date built into RFID tag	ThermoFisher
	HiDi Formamide	HiDi	N	Expiration date on packaging	ThermoFisher
	Conditioning Reagent	N/A	N	Expiration date built into RFID tag	ThermoFisher
MiSeq FGx	Signature Prep Box 1 of 3	Sig1	Y	Expiration date on box	Verogen
	Signature Prep Box 2 of 3	Sig2	Y	Expiration date on box	Verogen
	Signature Prep Box 3 of 3	Sig3	N	Expiration date on box	Verogen
	MiSeq Reagent kit Box 1 of 2	MiSeq1	N	Expiration date on box	Verogen, Illumina
	MiSeq Reagent kit Box 1 of 2	MiSeq2	N	Expiration date on box	Verogen, Illumina
	100% Ethanol	ETOH	N	Expiration date from mfg.	ThermoFisher

4. References

EZ1® DNA Investigator® Handbook
Investigator® Quantiplex® Pro Handbook
Quantifiler™ HP and Trio DNA Quantification Kits USER GUIDE
GlobalFiler™ PCR Amplification Kit USER GUIDE
GlobalFiler™ Express PCR Amplification Kit USER GUIDE
Yfiler™ Plus PCR Amplification Kit USER GUIDE
Investigator® 24plex QS Handbook
TECHNICAL MANUAL PowerPlex® Fusion System for Use on the Applied Biosystems® Genetic Analyzers
TECHNICAL MANUAL PowerPlex® Fusion 6C System for Use on the Applied Biosystems® Genetic Analyzers
ForenSeq DNA Signature Prep Reference Guide
MiSeq FGx Instrument Reference Guide

5. Definitions

Critical Reagent: Reagents deemed as critical must be QC and approved before use.
Working Solution: A working solution is a prepared reagent that utilizes reagent components combined to create a reagent that will be used in day-to-day activities.