Guidelines for Specimen Dilutions | Technical Procedure #3045

Prepared By	Date Adopted	Supersedes Procedure #
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Purpose

To define minimum volumes of sample and diluent for the first manual dilution for each analyte, subsequent manual dilution ratios and maximum dilution ratios that can be used to obtain analyte results.

Procedure

When manual dilutions are required to obtain a result, use the following guidelines:

1. Determine which dilution factor to use by looking at the error codes for the analyte(s) in Remisol. Refer to the manual dilution tables for the dilution factor, minimum sample volume and diluent volume to use for the analyte(s) being diluted. Do not over- or under-dilute. Diluted value should be between 25-75% of the AMR. Larger sample and diluent volumes may be used for the dilutions.
2. Program the dilution(s) for the analyte(s) needing a dilution in Remisol. The Remisol barcode printer will print the label after the dilution is programmed. A few analytes may require an off-line dilution (ex. low Phos, Low suppressed urine Na).
3. Label a container with the barcode label generated for the programmed dilution.
4. Always confirm the name and sample ID number of the specimen.
5. Take sample for dilution(s) from the primary tube whenever possible.
6. Make appropriate dilution with recommended diluent.
7. Only use the following calibrated MLA pipettors for making dilutions:

   25 µL

   50 µL

   100 µL

   200 µL

   250 µL

   300 µL

   500 µL

   1000 µL
7. For the maximum dilution (X201) a 5 mL volumetric pipet may be used for the diluent.

DxI Immunoassays

Analyte	Dilution Ratio	Sample Volume	Diluent Volume
E2 (Estradiol)	X2	100 µL	100 µL
PTH, PTHIO	X10	50 µL	450 µL

Centaur Immunoassays

Analyte	Dilution Ratio	Sample Volume	Diluent Volume
Ferritin	X21	25 µL	500 µL
Ferritin	X41	50 µL	2000 µL
Ferritin	X61	50 µL	3000 µL

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DxC Chemistries

Analyte	Dilution Ratio	Sample Volume	Diluent Volume
CO_2	X2	50 µL	50 µL
CO_2	X3	50 µL	100 µL
Calcium	X2	50 µL	50 µL
BUN, Glucose	X3	50 µL	100 µL
BUN, Glucose	X6	50 µL	250 µL
Crea, Phos, ALB, TP	X2	50 µL	50 µL
Crea, Phos, ALB, TP	X3	50 µL	100 µL
Phos	X4	100 µL	300 µL
ALP, ALT, AMY, AST, CK, GGT, LD, LIP	X2	50 µL	50 µL
ALP, ALT, AMY, AST, CK, GGT, LD, LIP	X3	50 µL	100 µL
ALP, ALT, AMY, AST, CK, GGT, LD, LIP	X6	50 µL	250 µL
ALP, ALT, AMY, AST, CK, GGT, LD, LIP	X11	50 µL	500 µL
ALP, ALT, AMY, AST, CK, GGT, LD, LIP	X21	25 µL	500 µL
ALP, ALT, AMY, AST, CK, GGT, LD, LIP	X41	50 µL	2000 µL
ALP, ALT, AMY, AST, CK, GGT, LD, LIP	X61	50 µL	3000 µL
ALP, ALT, AMY, AST, CK, GGT, LD, LIP	X81	50 µL	4000 µL
ALP, ALT, AMY, AST, CK, GGT, LD, LIP	X101	50 µL	5000 µL
AMY, CK	X201	25 µL	5000 µL
CHOL, TRIG	X2	50 µL	50 µL
CHOL, TRIG	X3	50 µL	100 µL
CHOL, TRIG	X6	50 µL	250 µL
CHOL, TRIG	X11	50 µL	500 µL
CHOL, TRIG	X21	25 µL	500 µL
FE, HDLD, LDLD	X2	50 µL	50 µL
FE, HDLD, LDLD	X3	50 µL	100 µL
DBIL, ETOH, LACT, MG, TBIL, SALY	X2	50 µL	50 µL
DBIL, ETOH, LACT, MG, TBIL, SALY	X3	50 µL	100 µL
DBIL, ETOH, LACT, MG, TBIL, SALY	X6	50 µL	250 µL
AMMONIA, TRANSF	X2	50 µL	50 µL
URIC	X2	50 µL	50 µL
URIC	X3	50 µL	100 µL
URIC	X6	50 µL	250 µL
Urine - Ca, Phos, M-TP, MA, UN, Uric	X2	50 µL	50 µL
Urine - Ca, Phos, M-TP, MA, UN, Uric	X3	50 µL	100 µL
Urine - Ca, Phos, M-TP, MA, UN, Uric	X6	50 µL	250 µL
Urine - Ca, Phos, M-TP, MA, UN, Uric	X11	50 µL	500 µL
Urine - Ca, Phos, M-TP, MA, UN, Uric	X21	25 µL	500 µL
Urine - M-TP	X41	50 µL	2000 µL
Urine - M-TP	X61	50 µL	3000 µL
Urine - Crea	X2	50 µL	50 µL
Urine - Crea	X3	50 µL	100 µL
Urine - Crea	X6	50 µL	250 µL

DxC Chemistries - continued

Analyte	Dilution Ratio	Sample Volume	Diluent Volume
CSF Glucose	X2	50 µL	50 µL
CSF Glucose	X3	50 µL	100 µL
CSF Glucose	X6	50 µL	250 µL
CSF Protein	X2	50 µL	50 µL
CSF Protein	X3	50 µL	100 µL
CSF Protein	X6	50 µL	250 µL
CSF Protein	X11	50 µL	500 µL
CSF Protein	X21	25 µL	500 µL
ACTM, CAR, PHE, TOB, VPA	X2	50 µL	50 µL
CAR, PHE, TOB, VPA	X3	50 µL	100 µL
CAR, PHE, TOB, VPA	X6	50 µL	250 µL
CAR, PHE, VPA	X11	50 µL	500 µL
C3, C4, HPT, IgA, IgG, IgM, PAB	X2	50 µL	50 µL
C3, C4, PAB	X3	50 µL	100 µL
C3, C4, PAB	X6	50 µL	250 µL
C3, C4, PAB	X11	50 µL	500 µL