

Urgent Field Safety Notice

ACHC20-18.A.OUS.CHC

September 2020

ADVIA® Chemistry 1800
ADVIA Chemistry 2400
ADVIA Chemistry XPT

Fructosamine Assay - Positive Bias with Quality Control and Patient Samples

Our records indicate that you may have received the following product:

Table 1. ADVIA® Chemistry Systems Affected Product:

Assay	Test Code	Reference Number	Siemens Material Number (SMN)	Lot Number
Fructosamine (FRUC)	115	04862501	10361941	All lots

Reason for Correction

The purpose of this communication is to inform you of a positive bias with Quality Control (QC) and patient samples when using the ADVIA Chemistry Fructosamine (FRUC) assay listed in Table 1.

An investigation performed by Siemens Healthcare Diagnostics Inc. has confirmed that the ADVIA Chemistry Fructosamine (FRUC) assay exhibits a 60 µmol/L positive bias for QC and patient samples across the analytical measuring range when compared to the predicate assay referenced in the method comparison section of the ADVIA Chemistry FRUC Instructions for Use (IFU).

Risk to Health

In this scenario, the potential exists for misinterpretation of fructosamine results, which may affect consideration of intervention. Clinical impact is extremely unlikely and would be mitigated by correlation to clinical history and presentation as well as to other laboratory testing (e.g. glucose) and serial testing. Siemens is not recommending a review of previously generated results.

Additional Information

Siemens has determined that the application of a Real-time correction factor to the FRUC Analytical Parameters (Chemistry) is required to correct for this bias and restore alignment of assay correlation to the predicate assay. Instructions to configure the Real-time correction factor are provided in the Additional Instructions section below. The Real-time correction factor will only need to be configured once. The factor will automatically be applied to future versions of the FRUC test definition. The FRUC Analytical Parameters (Chemistry) will incorporate this correction factor in a future version.

Refer to Figure 1 for the ADVIA Chemistry FRUC method comparison to the predicate assay after the correction factor is applied.

After implementation of the Real-time correction factor, Siemens verified a new reference interval which is consistent with the reference interval of the predicate assay. The FRUC IFU will be updated with the new reference interval of 153-300 $\mu\text{mol/L}$. As stated in the IFU, "Siemens provides this information for reference. As with all *in vitro* diagnostic assays, each laboratory should determine its own reference ranges for the diagnostic evaluation of patient results. Consider this range as a guideline only. You can enter normal range values and abnormal range values at the Analytical Parameters (Chemistry) window."

The information related to the FRUC reference range provided in this letter supersedes the information in the current ADVIA Chemistry FRUC IFU until it is updated. Once updated the revised IFU will be available in Document Library where all registered users who opt in to receive alerts will be notified of the updated IFU.

Adjust your QC mean and ranges to account for the Real-time correction. To adjust QC ranges, subtract 60 $\mu\text{mol/L}$ from your current values. Refer to Table 2 for an example of QC targets and ranges with an adjusted target.

Actions to be taken by the Customer

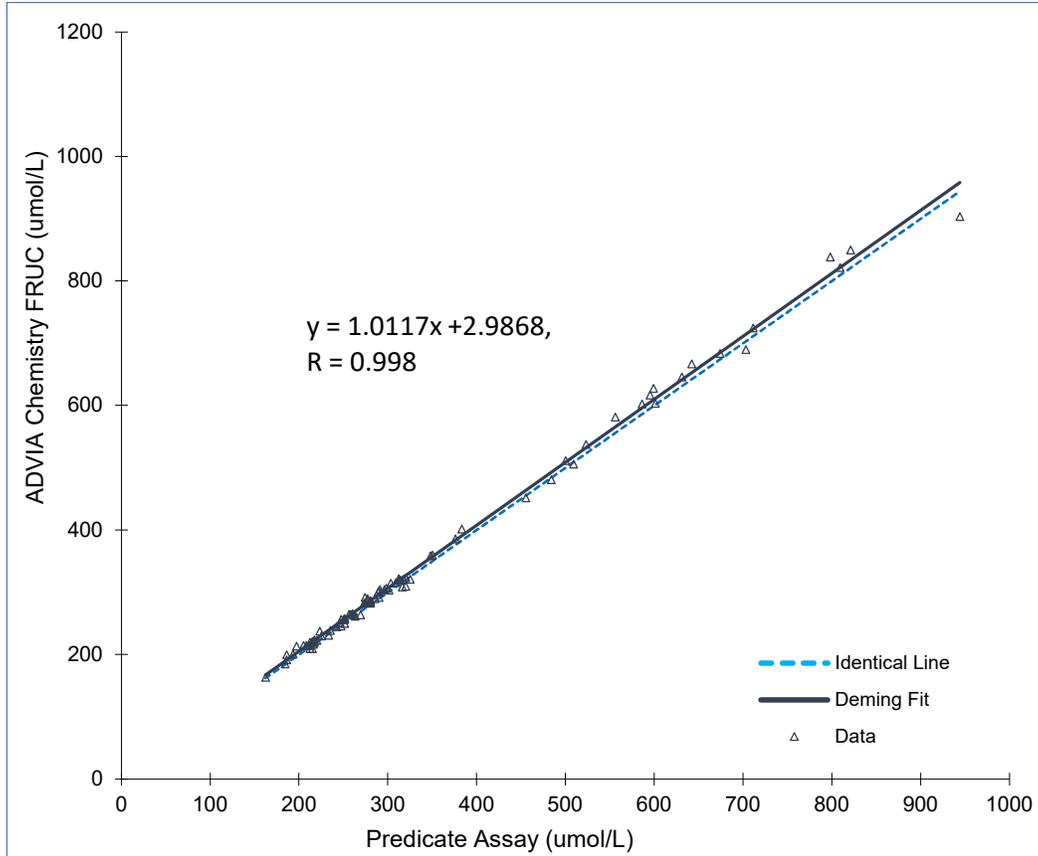
- Perform the following actions on the ADVIA Chemistry System
 1. Enter the Real-time correction factor in the Analytical Parameters (Chemistry) window. Refer to the Additional Instructions section below
 2. Once the Real-time correction factor has been configured, update QC ranges as described above in the FRUC QC Definition following your laboratory procedures.
 3. Update the reference range following your laboratory procedures.
 4. Perform a FRUC calibration and process QC.
 5. Perform a system back-up.
-

- Complete and return the Field Correction Effectiveness Check attached to this letter within 30 days.
- Review this letter with your Medical Director.
- If you have received any complaints of illness or adverse events associated with the products listed in Table 1, immediately contact your local Siemens Healthineers Customer Care Center or your local Siemens Healthineers technical support representative.

Table 2: Example Quality Control Recovery

Quality Control Material	Previous Target (µmol/L)	Previous Control Range (µmol/L)	Adjusted Target (µmol/L)	Adjusted Control Range (µmol/L)
RANDOX Fructosamine Control Level 1 Lot 538FR	258	206 – 310	198	146 - 250
RANDOX Fructosamine Control Level 3 Lot 539FR	939	751 – 1127	879	691 - 1067

Figure 1: Method Comparison between ADVIA Chemistry FRUC Assay and the Predicate Assay with Correction Applied



Please retain this letter with your laboratory records and forward this letter to those who may have received this product.

We apologize for the inconvenience this situation may cause. If you have any questions or need assistance with making these updates, please contact your Siemens Healthineers Customer Care Center or your local Siemens Healthineers technical support representative.

ADVIA is a trademark of Siemens Healthcare Diagnostics.

Additional Instructions:

Manual Configuration of the Real-Time Correction Factor in Analytical Parameters (Chemistry)

ADVIA 1800 and 2400:

1. Ensure system is in the Ready state.
2. On the Menu Panel, select Setup > Analytical Parameters (Chemistry).
3. Select the Fructosamine (FRUC) assay from the Analytical Condition Number. The Analytical Condition Number for FRUC is 115.

The screenshot shows the ADVIA 1800 - Operation Panel at the top, with a 'READY' status and 'SMP LOAD OK' message. Below it is the 'Analytical Parameters (Chemistry)' configuration window. The 'Analytical conditions' section shows 'Analytical Cond. no.' set to 115 and 'Sub-analyt. conditions' set to 'FRUC'. The 'Real-time correct.form.' field is highlighted with a red box. The 'Standards setting' section shows 'FV' set to 1.0000 and 'Normal value set' options. The 'Calculation method setting' section shows 'M-DET.P.1' through 'M-DET.P.n' and 'S-DET.P.p' through 'S-DET.P.r' fields. The 'Reanalysis conditions' section shows 'Serum reac.smp.vol(u)' set to 3.00 and 'Serum dilut.method(u)' set to 'None'. The 'Reanalysis conditions' section also shows 'Serum reac.smp.vol(d)' set to 3.00 and 'Serum dilut.method(d)' set to 'None'. The 'Reanalysis conditions' section also shows 'Serum diluent.vol(d)' set to 0.000 and 'Serum diluent.posi(d)' set to 0. The 'Reanalysis conditions' section also shows 'Serum reac.smp.vol(u)' set to 3.00 and 'Serum dilut.method(u)' set to 'None'. The 'Reanalysis conditions' section also shows 'Serum reac.smp.vol(d)' set to 3.00 and 'Serum dilut.method(d)' set to 'None'. The 'Reanalysis conditions' section also shows 'Serum diluent.vol(d)' set to 0.000 and 'Serum diluent.posi(d)' set to 0. The 'Reanalysis conditions' section also shows 'Serum reac.smp.vol(u)' set to 3.00 and 'Serum dilut.method(u)' set to 'None'. The 'Reanalysis conditions' section also shows 'Serum reac.smp.vol(d)' set to 3.00 and 'Serum dilut.method(d)' set to 'None'. The 'Reanalysis conditions' section also shows 'Serum diluent.vol(d)' set to 0.000 and 'Serum diluent.posi(d)' set to 0.

4. Select Real-time correction form.

ADVIA Chemistry Fructosamine Assay - Positive Bias with Quality Control and Patient Samples

5. In the FRUC Analytical Parameters (Chemistry) screen, select Real-Time Correction Formula button. Enter the following:

- In the Serum formula field enter “x-a”
- Factors a = 60

- In the Urine Formula field enter “x-a”
- Factors a = 60

The screenshot displays the ADVIA 1800 - Operation Panel and the Analytical Parameters (Chemistry) screen. The 'Real-time correction formula setting' dialog box is open, showing the following settings:

- Serum Formula:** x-a
- Factors:** a = 60.000, b = 0.0000, c = 0.0000, d = 0.0000
- Urine Formula:** x-a
- Factors:** a = 60.000, b = 0.0000, c = 0.0000, d = 0.0000

The background screen shows the 'Analytical Parameters (Chemistry)' screen with various fields for reagent volumes, dilution, and standards settings. The 'Real-time correction formula setting' dialog box is open, showing the following settings:

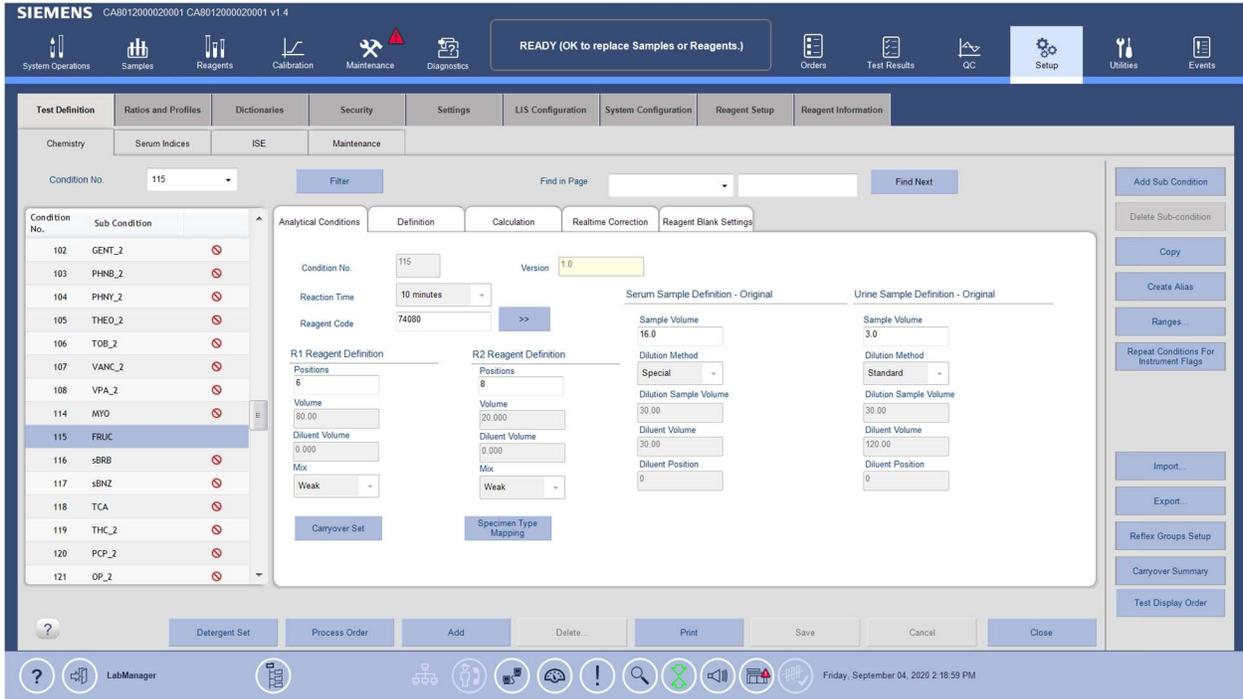
6. Select OK.

7. Select Save.

8. Select Yes.

ADVIA Chemistry XPT:

1. Ensure system is in the Ready state.
2. On the Command bar, select Setup > Test Definition > CH Test Definition.
3. Select the Fructosamine (FRUC) assay from the list.
4. Select Real-time correction.



5. In the FRUC Analytical Parameters (Chemistry) screen, select Real Time Correction Formula button. Enter the following:

- In the Serum formula field enter “x-a”
- Factors a = 60

- In the Urine Formula field enter “x-a”
- Factors a = 60

ADVIA Chemistry Fructosamine Assay - Positive Bias with Quality Control and Patient Samples

SIEMENS CA8012000020001 CA8012000020001 v1.4

READY (OK to replace Samples or Reagents.)

System Operations Samples Reagents Calibration Maintenance Diagnostics Orders Test Results QC Setup Utilities Events

Test Definition Ratios and Profiles Dictionaries Security Settings LIS Configuration System Configuration Reagent Setup Reagent Information

Chemistry Serum Indices ISE Maintenance

Condition No. 115 Filter Find in Page Find Next

Condition No.	Sub Condition	
102	GENT_2	⊗
103	PHNB_2	⊗
104	PHNY_2	⊗
105	THEO_2	⊗
106	TOB_2	⊗
107	VANC_2	⊗
108	VPA_2	⊗
114	MYO	⊗
115	FRUC	
116	sBRB	⊗
117	sBNZ	⊗
118	TCA	⊗
119	THC_2	⊗
120	PCP_2	⊗
121	OP_2	⊗

Analytical Conditions Definition Calculation Realtime Correction Reagent Blank Settings

Serum

Formula: $x-a$

Factors: a= 60.000000 b= 0.000000 c= 0.000000 d= 0.000000 Verify

Urine

Formula: $x-a$

Factors: a= 60.000000 b= 0.000000 c= 0.000000 d= 0.000000 Verify

Detergent Set Process Order Add Delete... Print Save Cancel Close

LabManager Friday, September 04, 2020 2:51:14 PM

6. Select Save.
7. Select Close.
8. Select Yes at the prompt.