

Cressier, September 23rd, 2022

Field Safety Notice / FSCA 003-22

Affected products displaying the issue:

Product Name	UDI-DI	Catalog No	Version	Serial Number
IH-500	07611969167623 03610522063697	001500 001500RECOND	All	All

Dear Customer,
 cc Chairman Medical Board and relevant Head of Departments

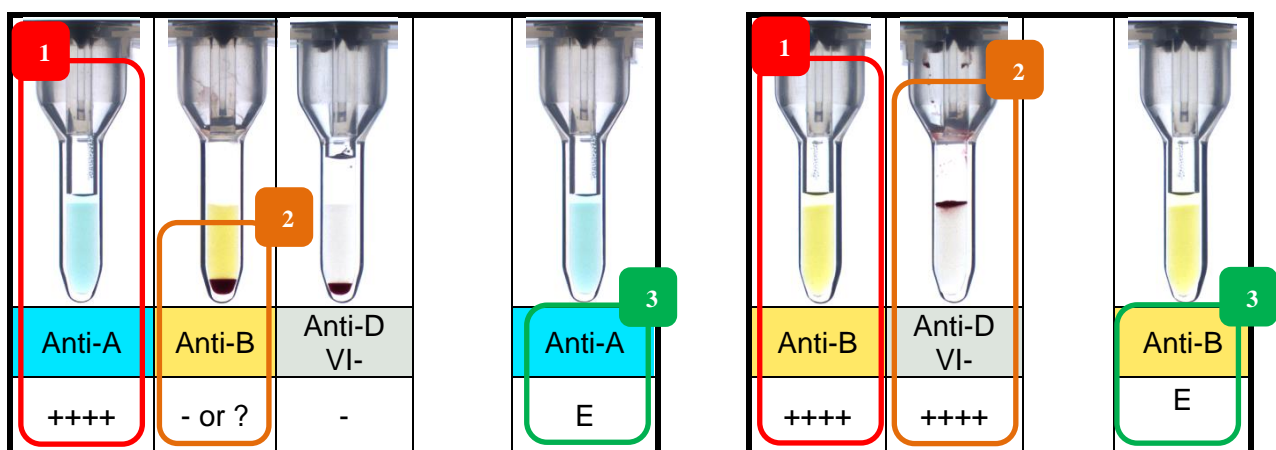
This letter contains important information that requires your immediate and urgent attention. Bio-Rad is voluntarily conducting a Field Safety Corrective Action for the products identified above.

Description of the problem:

We would like to share with you, and your team, information about an issue that could be observed when performing ABO grouping tests for patients and/or donors on the IH-500 instrument.

In case of absence of red blood cells (RBC) sample into the Anti-A well or Anti-B well, the reading algorithm of the IH-500 might not be able to properly detect the dispense failure and return the result as positive instead of Empty "E" as expected (See figure 1).

Out of the entire installed fleet of instruments, which includes more than 1'500 machines, only 6 cases of this type were brought to our attention in 2022, indicating a low probability of occurrence of this issue.



- (1) Unexpected behavior of IH-500: Non dispensed well returned positive “++++”
- (2) Non dispense in a well is generally followed by a double dispense in the subsequent well (negative results displayed as “?” or “-“, positive result displayed as expected)
- (3) Expected behavior of IH-500: Non dispensed well returned “E” invalidating the result

Figure 1: Unexpected and expected results for empty Anti-A (left) and Anti-B (right) wells

Impact on the patient:

Application Subtype*	Impact on the reaction	Medical Context of Use	Mitigating Factors / Sequence of events
Combined forward and reverse grouping	False Positive	Transfusion	This situation will lead to a discrepancy between forward and reverse typing or with patient's anteriority. The first time, a patient is always typed twice including a second sample prior to transfusion. In case the transfusion would become urgent, crossmatch compatible O RhD negative blood units could be used pending for the final ABO/D type.
Combined forward and reverse grouping	False Positive	Donor Qualification	This situation will lead to a discrepancy between forward and reverse typing or donor's anteriority. The first time, a donor is always typed twice and then further on, they are typed each time they donate. The blood unit would be kept on hold until the discrepancy is sorted out.
ABD Confirmation for patients	False positive	Transfusion	ABD Confirmation card for patient is used for patients that do have historical results available in the Laboratory Informatics System based on at least two ABO blood type determinations (forward plus reverse). In case the transfusion would become urgent, crossmatch compatible O RhD negative blood units could be used pending for the final ABO/D type.
ABD Confirmation for donors	False positive	Donor Qualification	ABD Confirmation card for donor is used for donors that do have historical results available in the Laboratory Informatics System based on at least two ABO blood type determinations (forward plus reverse). The blood unit would be kept on hold until the discrepancy is sorted out.

* Remark: The ABO grouping tests for Newborn are not affected by this issue as involving a different type of dispense of the RBC suspension (50 µL of 1% RBC suspension).

We advise you to assess this situation with your medical director to determine if retesting is deemed necessary and take the appropriate course of action depending on the patient's clinical conditions, medical history, and other relevant laboratory data.

Immediate protective measure for the user:

We recommend to:

1. Ensure your preventive maintenance including needle replacement has been made according to our instructions.
2. As of now, verify all future results obtained on the Anti-A and Anti-B following one of the instructions below:

- a. *Deactivate the automatic reading function in the IH-Com (this will affect all tests results)*
- or
- b. *Contact your field application to determine the appropriate solution (e.g. configure a reflex test in IH-COM, send an automatic comment to your LIS)*

If you detect a dispensing issue incorrectly interpreted, we recommend to:

1. Invalidate the result
2. Repeat the test
3. If the issue persists, contact your customer technical support representative

We ask that you ensure the transfer of this information to all the necessary people impacted in your institution and/or forward it to establishments where products may have been transferred.

Note: The upcoming software version 3.1 of IH-500 includes improvement of the reading algorithm for the detection of empty wells. Information regarding the new software deployment will be communicated in an FSN follow-up letter before end of 2022.

Please note that the relevant European Regulatory Agency has been advised of this Field Safety Corrective Action.

In case of any questions, as a first measure, please contact our customer technical support representative:

[Indicate here local contact]

Our representatives are briefed to help you manage this situation.

We apologize for any inconvenience that may have been caused by this action and we appreciate your prompt cooperation in this matter.

Yours sincerely,

Quality Assurance Representative

Amélie Bérard-David

International Product Manager Automated Solutions

Raphael Muñiz



CUSTOMER FIELD ACTION RESPONSE FORM

Field Action Reference Number: FSCA 003-22
Bio-Rad Product Segment: IHD
Single Registration Number (SRN): CH-MF-000020826

PRODUCT

Product UDI	Product Name	Catalog No	Serial No	Software Version
07611969167623	IH-500	001500	All	All
03610522063697		001500RECOND		

CUSTOMER INFORMATION

Account Name:	
Undersigning Manager Name:	
Address :	
Telephone Number / Fax :	
Customer Account Number :	

STATEMENT:

- No affected product received
- I am aware of the information about the field action concerning the above reference product(s) and have proceeded according to the instructions issued by Bio-Rad.

Number of affected products received:	N/A	Number of affected products corrected/ destroyed/ returned (as applicable to the Field Action instructions):	N/A
If number of products corrected/ destroyed/ returned is different to the number received, please account for the difference: N/A			

Date:

Customer Signature (and Stamp if applicable)

Please return this form to: [enter local details]



Cressier, 17 October 2022

Follow-up letter Field Safety Notice / FSCA 003-22

Affected products displaying the issue:

Product Name	UDI-DI	Catalog No	Version	Serial Number
IH-500	07611969167623 03610522063697	001500 001500RECOND	All	All

Dear Customer,

We would like to share with you an additional information related to this Field Safety Corrective Action released on September 2022.

In our previous communication, we informed you about the reading algorithm of the IH-500 that might not be able to properly detect some dispense failures of red blood cell sample and return the result as positive “++++” instead of Empty “E”.

As indicated in the FSN, so far, the cases reported from the field are all involving ID-Cards intended for ABO forward grouping or ABD confirmation (see highlighted product in Table 1). These cases were related to the non-dispense of RBC sample in the anti-A **and / or** the anti-B wells meaning that the dispense failure could occur on several wells of the same sample dispense.

The analysis of these cases as well as additional internal investigations performed indicated that this issue can theoretically occur on other ID-Cards involving the same type of dispense (10uL of RBC suspension in ID-Diluent 2). The **Table 1** provides a list of all affected and potentially affected ID-Cards.

For these ID-Cards the risk of obtaining a false positive result in case of non-dispense of the RBC suspension cannot be completely excluded. The table 2 describing the impact on the patient has been updated to include the intended use of these ID-cards.

Id n°	REF	Product Name	Test Code
45470	001397	DiaClon ABO/Rh + Épreuve Sérique DiaClon Rh-Sousgroupes + K	MO33A ; MO33C
45480	001398	DiaClon ABO/Rh + Épreuve Sérique DiaClon Rh-Sousgroupes + K	MO33A ; MO33C
50012	001043 / 001044 / 001045 / 001046	DiaClon ABO/Rh for Patients	MI35A ; MI35B ; MO01
50053*	001254 / 001255 / 001256 / 001257	DiaClon ABD-Confirmation for Patients	MO10
50057	001284 / 001285 / 001286 / 001287	DiaClon ABD (DVI-) Confirmation for Patients	MO10
50092	001234 / 001237 / 001236 / 001235	DiaClon ABO/D + Reverse Grouping	MO31X ; MO31
50093	001264 / 001267 / 001266 / 001265	DiaClon ABO/D + Reverse Grouping for Patients	MO31X ; MO31
50481	001324 / 001323 / 001326 / 001325	DiaClon ABO/D	MI36A ; MI36B MO01A
50492*	001344 / 001347 / 001346 / 001345	DiaClon ABO/D + DAT	MO01B
50682	002437 / 002431 / 002439 / 002438	DiaClon Type + Screen	CN11 ; MO11
50741*	001275 / 001276	DiaClon ABO/D (DVI-, DVI-) + Reverse Grouping	MO31A ; MO31B
50742	001248 / 001249	DiaClon ABO/D + Reverse Grouping	MO31A ; MO31B
50981	001386	DiaClon ABO/D (DVI+, DVI-) + Reverse Grouping	MO32 ; MO32A
51011	001037 / 001033 / 001039 / 001038	DiaClon ABO/Rh for Donors	MI37A ; MI37B ; MO02
51051*	001134 / 001133 / 001136 / 001135	DiaClon ABD-Confirmation for Donors	MO12
51090	001365 / 12010791	DiaClon ABO/D + Reverse Grouping for Donors	PR31C ; PR31D
51160	001374 / 001376	DiaClon ABO/DVI+/DVI- + DAT	MO01E
52040	001294 / 001296 / 001297	DiaClon ABO/DVI- for Patients	MO01F5
52050	001424 / 001425 / 001427	DiaClon ABO/DVI-	MO01G5
50850	002151 / 002154	ID-DiaClon Anti-c	HO001
50110	002124 / 002127 / 002126 / 002125	DiaClon Rh-Subgroups + K	MO09A
50710	002224 / 002225 / 002226 / 002227	DiaClon Rh + K Pheno II	MO09B
52000 + 52020	002134 / 002137 / 002136 / 002135 001711 / 001714	DiaClon Rh-Subgroups + Cw + K + Control Card A	MO09C; MO09CC
50171	001251 / 001252	DiaClon Anti-DVI neg.	MO09E



Id n°	REF	Product Name	Test Code
52010 + 52020	001321 52020	DiaClon Anti-Cw + Control Card A	MO09F; MO09FM
52030	002234 / 002237	DiaClon RhD + Phenotype	MO09G5
50200	002121	DiaClon Anti-K	MO44D
51210	006011	DiaClon Anti-M/N	MO45D
50212	007011	DiaClon Anti-M	PR44M
50221	007111	DiaClon Anti-N	PR44N

* ID-Cards for which the described issue has been reported from the field on Anti-A and / or Anti-B wells.

Table 1_ID-Cards and Test Codes in scope of the FSCA 003-22

Application Subtype	Impact on the reaction	Medical Context of Use	Mitigating Factors / Sequence of events
Combined forward and reverse grouping	False Positive	Transfusion	This situation will lead to a discrepancy between forward and reverse typing or with patient's anteriority. The first time, a patient is always typed twice including a second sample prior to transfusion. In case the transfusion would become urgent, crossmatch compatible O RhD negative blood units could be used pending for the final ABO/D type.
Combined forward and reverse grouping	False Positive	Donor Qualification	This situation will lead to a discrepancy between forward and reverse typing or donor's anteriority. The first time, a donor is always typed twice and then further on, they are typed each time they donate. The blood unit would be kept on hold until the discrepancy is sorted out.
ABD Confirmation for patients	False positive	Transfusion	ABD Confirmation card for patient is used for patients that do have historical results available in the Laboratory Informatics System based on at least two ABO blood type determinations (forward plus reverse). In case the transfusion would become urgent, crossmatch compatible O RhD negative blood units could be used pending for the final ABO/D type.
ABD Confirmation for donors	False positive	Donor Qualification	ABD Confirmation card for donor is used for donors that do have historical results available in the Laboratory Informatics System based on at least two ABO blood type determinations (forward plus reverse). The blood unit would be kept on hold until the discrepancy is sorted out.
RH1(D) Typing	False positive	Transfusion	RhD typing is carried out along with ABO and will follow the same rule. A second result is required to confirm a pre-establish result. In case the transfusion would become urgent, RhD negative blood can be selected.
RH1(D) Typing	False positive	Donor Qualification	RhD typing is carried out along with ABO and will follow the same rule. A new result is required to confirm a pre-establish result. The blood unit would be kept on hold until the discrepancy is sorted out.
Other Antigen Typing	False Positive	Transfusion	These additional antigens are not routinely tested (except in some countries). They may be determined within the following scenarios (according to local recommendations): 1. Antigen testing is part of the antibody identification process. An antibody specificity is assigned if the patient is found negative for the respective antigen. The positive reaction should lead to further investigations. 2. Prophylactically for chronically transfused patients. A positive reaction may lead to the transfusion of positive units exposing the patient to a risk of allo-immunization which is dependent of several factors related to the patient, the number of transfusion and the immunogenicity of the antigen. If this allo-immunization would occur, it should be detected during the post transfusion work up. 3. Prophylactically for the transfusion of women of child-bearing potential. A positive reaction may lead to the transfusion of positive units exposing the patient to a risk of allo-immunization which is dependent of several factors



Application Subtype	Impact on the reaction	Medical Context of Use	Mitigating Factors / Sequence of events
			related to the patient, the number of transfusion and the immunogenicity of the antigen. If this allo-immunization would occur, it should be detected during the post transfusion work up. Even if extremely rare cases of HDFN have been described, the likelihood of developing hydrops with antibodies other than anti-D, anti-c, anti-K is low.
		Donor Qualification	These additional antigens can be tested upon request when a patient requiring a transfusion is allo-immunized (antibody specificity assigned), or to build up an inventory of extended phenotype units. A unit found positive will not be used to transfuse a patient with the respective allo-antibody.

Table 2_ Applications in scope of the FSCA 003-22 and impact on the patient

As communicated previously in the FSN 003-022 we recommend to:

1. Ensure your preventive maintenance including needle replacement has been made according to our instructions.
 2. Deactivate the automatic reading function in the IH-Com (this will affect all tests results)
- Or
3. Contact your field application to determine the appropriate solution (e.g. configure a reflex test in IH-COM, send an automatic comment to your LIS)

If you detect a dispensing issue incorrectly interpreted, we recommend to:

1. Invalidate the result
2. Repeat the test
3. If the issue persists, contact your customer technical support representative

We ask that you ensure the transfer of this information to all the necessary people impacted in your institution and/or forward it to establishments where products may have been transferred.



DiaMed GmbH
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1785 Cressier FR / Switzerland
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Fax: +41 (0)26 674 54 45

In case of any questions, as a first measure, please contact our customer technical support representative:

CTS_IHD_CE@Bio-Rad.com

We apologize for any inconvenience that may have been caused by this action and we appreciate your prompt cooperation in this matter.

Yours sincerely,

Quality Assurance Representative

Amélie Bérard-David

International Product Manager Automated Solutions

Raphael Muñiz



CUSTOMER FIELD ACTION RESPONSE FORM

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Bio-Rad Product Segment: IHD
Single Registration Number (SRN): CH-MF-000020826

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03610522063697		001500RECOND		

CUSTOMER INFORMATION

Account Name:	
Undersigning Manager Name:	
Address :	
Telephone Number / Fax :	
Customer Account Number :	

STATEMENT:

- I am aware of the follow-up information about the field action concerning the above reference product(s) and have proceeded according to the instructions issued by Bio-Rad.

Date:

Customer Signature (and Stamp if applicable)



Cressier, 17 February 2023

Follow-up letter Field Safety Notice / FSCA 003-22

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As indicated in the previous Field Safety Notice, the upcoming software version 3.1 of IH-500 includes improvement of the reading algorithm for the detection of these empty wells. Through this follow-up letter, we would like to give you more information regarding the deployment of this version.

Due to supply issues with some electronic boards, the overall launch of the software version 3.1 initially expected by end of 2022 has been delayed and is planned to be released in April 2023.

Until the release of this version and as communicated previously in the FSN 003-022 we still recommend to:

1. Ensure your preventive maintenance including needle replacement has been made according to our instructions.
2. Deactivate the automatic reading function in the IH-Com (this will affect all tests results)

Or

3. Contact your field application to determine the appropriate solution (e.g. configure a reflex test in IH-COM, send an automatic comment to your LIS)

If you detect a dispensing issue incorrectly interpreted, we recommend to:

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Yours sincerely,

DocuSigned by:
Amélie Berard
Signer Name: Amélie Berard
Signing Reason: I approve this document
Signing Time: 21-Feb-2023 | 5:49:04 AM PST

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Quality Assurance Representative

Amélie Berard

DocuSigned by:
Raphael Muniz
Signer Name: Raphael Muniz
Signing Reason: I approve this document
Signing Time: 20-Feb-2023 | 11:05:23 PM PST

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International Product Manager Automated Solutions

Raphael Muñiz