URGENT

Ortho Clinical Diagnostics

Month ##, 2021

URGENT FIELD SAFETY NOTIFICATION

Potential Intermittent False Positives on ORTHO VISION and ORTHO VISION Max BioVue Analyzers When Testing High Titer Samples

Dear Customer,

Ortho Clinical Diagnostics previously issued a letter (Ref. CL2020-206a) regarding the potential for intermittent false positive results being generated on ORTHO VISION® or ORTHO VISION® Max analyzers when processing ORTHO Sera anti-D (IAT) and Indirect Antiglobulin Test (IAT) crossmatch (XM) tests after pipetting plasma or serum samples with high titer ABO antibodies. An investigation was conducted to determine if any other tests might be impacted. Along with the previously affected assays in the table below, the newly identified assays that were impacted are noted with * in the table below.

Affected Product	Product Code Unique Device Identifier No.
ORTHO VISION® Analyzer for ORTHO® BioVue Cassettes	**6904579** (10758750012831)
ORTHO VISION® Max Analyzer for ORTHO® BioVue Cassettes	**6904578** (10758750012848)

Impacted Test Type	Associated Product Codes
ORTHO™ Sera Antigen Typing • ORTHO™ Sera Anti-Fya • ORTHO™ Sera Anti-Fyb • ORTHO™ Sera Anti-S • ORTHO™ Sera Anti-s • ORTHO™ Sera Anti-D (IAT)	• 6904486* • 6904487* • 6904490* • 6904491* • 6904493
IAT Crossmatch and IAT Autocontrol* performed on • AHG Anti-IgG Ortho BioVue® System cassettes • Anti-Human Globulin Anti-IgG, -C3d; polyspecific Ortho BioVue System® cassettes	• 707400/707450 • 707300/707350
IAT Dilution Series* performed on • AHG Anti-IgG Ortho BioVue® System cassettes • Anti-Human Globulin Anti-IgG, -C3d; polyspecific Ortho BioVue System® cassettes In conjunction with type A_1 or B (reagent) red blood cells	• 707400/707450 • 707300/707350

Issue Description

Ortho Clinical Diagnostics received complaints of discordant positive reactions for healthy donor and patient samples.

Impact to Results

As is described in the ORTHO VISION / ORTHO VISION Max Reference Guides, plasma samples with antibody titers >1024 may intermittently cause carryover in subsequent test columns.

Ortho's investigation of low frequency intermittent false positive test results has determined that, for the specific test types listed in the table above, type O plasma samples with ABO antibody titers ≥1024 may cause false positive test results due to carryover.
Unexpected positive results may lead the blood bank laboratory to perform additional testing to confirm the sample results.

If a high titer ABO antibody sample (≥1024) is suspected of being processed it is recommended to review column results for all plasma and/or cell dispenses that occurred after the high titer sample. Discuss any concerns you may have regarding previously reported results with your Laboratory Medical Director to determine the appropriate course of action.

Carryover Claims

The Carryover Claims were established using an Anti-D antibody and state: *Testing of the ORTHO VISION® Analyzer indicated that a sample with a high-titered antibody (>1024) when tested may intermittently cause carryover in the subsequent sample test columns. The number of columns affected is dependent on the magnitude of the high titer sample. Testing also indicated that carryover was not observed in samples with antibody titers of 512 or 1024.*
During an investigation on low frequency intermittent false positive results it was concluded that the potential for intermittent carryover exists for Anti-A at an antibody titer **≥** 1024 and may generate a false positive result with red blood cells that express higher copy number of A antigen, while having no observable effect on the expected negative results with red blood cells expressing lower copy number of A antigen.

Investigation

A limited number of customers, approximately 1.42% of the ORTHO VISION Platform's install base, have notified ORTHO about experiencing this issue.

Our investigation is focused on two potential causes of antibody carryover on ORTHO VISION systems and its impact on results of the test types listed in the table above.

Acute carryover – A false positive result caused by carryover of ABO antibodies from a previously pipetted high titer (≥1024) samples into subsequently pipetted tests on the ORTHO VISION analyzers. This would occur when antibodies from the previously pipetted plasma or serum samples are not completely washed from the pipettor and contaminates subsequently pipetted test fluids.

Chronic carryover - The probability of a false positive test result due to carryover of ABO antibodies can slowly increase over the course of the lifetime of the pipettor assembly due to repeated exposure to antibody containing samples during normal pipetting processes. Daily probe maintenance cleans the internal surface of the pipettor assembly and applies a protective coating of Bovine Serum Albumin (BSA) to prevent this build up effect. As is described below, Ortho has validated enhanced daily maintenance procedures to more effectively limit potential impact of the chronic carryover.

This investigation has determined that generation of false positives due to ABO antibody carryover on ORTHO VISION and ORTHO VISION Max systems, is dependent on the following factors.

- Impacted test type(s) is run on ORTHO VISION / ORTHO VISION Max analyzers (impacted test types listed in above table).
- Titer of ABO antibodies in the previously pipetted serum or plasma sample (≥1024).
- Aspiration volume of previously pipetted serum or plasma sample, and of fluids subsequently pipetted for the impacted test.
- The amount of time that pipetted test fluids reside in the pipettor between aspiration and dispense.
- A and/or B antigen copy number of the Red Blood Cells (RBCs) in the impacted test.

This issue is not reagent-related per se and, therefore, a replacement of reagents will not resolve it.

Resolution

Ortho recommends following the mitigations defined in the ORTHO VISION/ VISION Max reference guides, if a plasma sample with ABO antibody titer equal to or greater than 1024 has been processed.

Ortho has also validated an optional enhanced daily maintenance procedure using 0.5 M NaOH (instead of 0.1 M NaOH that is currently used) when chronic carryover is suspected. Refer to the enclosed Technical Bulletin (Pub No. J68774) for its use. This optional enhanced daily maintenance procedure is meant to serve as an incremental improvement to reduce effects of chronic carryover in the interim.

Ortho is actively working on further improvements to mitigate carryover of ABO antibodies into subsequently pipetted fluids which will be introduced in a future software release.

REQUIRED ACTIONS

- Please refer to ORTHO VISION/ORTHO VISION Max reference guide recommendations (Pub No. J55655/Pub. No. J55657) if you suspect carryover has occurred. Specifically, If a high titer antibody sample (≥1024) is suspected of being processed it is recommended to review column results for all plasma and/or cells dispenses that occurred after the high titer sample and to perform the Daily Probe Maintenance procedure.
- Assess your laboratory's needs for whether it would be beneficial to implement the enhanced daily maintenance procedure in the enclosed Technical Bulletin.
- Complete the enclosed Confirmation of Receipt form no later than **Month XX, 2020**.
- Please forward this notification if the product was relocated outside of your facility.
- Save this notification with your user documentation.

Contact Information

If you have questions, please contact Ortho Care™ Technical Solutions Center at insert number.

Insert signatory if appropriate in your region.

Enclosure:
Technical Bulletin (Pub No. J68774)