Immunohematology

TANGO infinity® Tips

USSD • February 2016

BIO-RAD

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TANGO **infinity®** Tips

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Bromelin Preparation

Total Volume	Bromelin	Isotonic Saline	% Volume
55 mL	2.75 mL	52.25 mL	100
50 mL	2.50 mL	47.50 mL	90
45 mL	2.25 mL	42.75 mL	80
40 mL	2.00 mL	38.00 mL	70
35 mL	1.75 mL	33.25 mL	60
30 mL	1.50 mL	28.50 mL	50
25 mL	1.25 mL	23.75 mL	40
20 mL	1.00 mL	19.00 mL	30
15 mL	0.75 mL	14.25 mL	20
10 mL	0.50 mL	9.50 mL	10

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Steps to Getting Started

1. Perform required Care or Maintenance.
   Daily / Weekly / Monthly
2. Run and validate QC.
3. Load and run samples.

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Powering the Tango infinity® On/Off

Power On Sequence

1. Power on the TANGO **infinity®**
2. Power on the PC
3. Enter password and the instrument will continue to initialization

Power Off Sequence

1. Exit TANGO **infinity®** Software
2. Shut down the computer if it does not automatically turn off
3. Turn off the TANGO **infinity®**

Note: Wait 30 seconds before powering the system on

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Crossmatch Assay Procedure Notes

Use of the Y rack*

- Not for use when TANGO **infinity**® is interfaced to an LIS
- Recipient sample in position 1, position 2 is empty, donor red blood cells are placed into positions 3 to 12

Use of the N and K racks*

- Used with or without interface to an LIS
- N rack for patient samples, as with other assays
- K rack with spacers for donor red blood cells from segment
- Use TANGO **infinity**® software to select which donors will be crossmatched to the selected recipient

*Crossmatch Assay not currently available in the USA.

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Daily Care

- **Clean, check and adjust SPOLV**

  Wipe pipettor needle with Di Water. Perform system rinse. Start automatic check and adjustment of SPOLV.

- **Check Suspension Cup**

  Look for any residue in cup or red cells attached to the side of the cup, without removing it if possible. If large amount is present, replace the cup.

- **Check the liquid supplies and liquid waste**

  Refill the System Liquid or Wash Solution bottle if volume is low. Empty the liquid waste if necessary.

- **Check the strip waste**

  Empty or replace the small bag that catches the used strips. Alternately wash the strip waste container if a bag is not used.

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Weekly Maintenance

- **Clean and disinfect surfaces**

  Open front cover and remove all racks and acrylic glass cover from cooled reagent bay. Wipe splatter and spills with water or water based detergent. Disinfect by wiping with bleach or ethanol.

- **Clean Optical Filter**

  Remove optical filter from front side of the Measurement Chamber and clean with canned air, lint free cloth or lens paper.

- **Check Pipettor Rinse Station**

  Dry with a lint free wipe.

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Monthly Maintenance

- **Disinfect Sample and Reagent Racks**

  Remove all Sample and Reagent Racks. Clean racks by wiping with water or water based detergent. Disinfect racks with bleach or ethanol.

- **Replace Suspension Cup and Splash Bowl**

  Remove the suspension cup and splash bowl. Properly seat new splash bowl and suspension cup. Be certain bowl and cup snap into place. Clean the gray plastic cover.

- **Disinfect Containers and**

  Follow step by step directions located
  BIO-RAD BIO-RAD LABORATORIES
  Microcide is used for disinfection. To d
  750 mL Di water to make 1 L of disinfecting solution.

- **Disinfect Strip Waste Bin**

  If not using a waste bag in the strip waste bin, or if container becomes dirty, clean the container with water. Then disinfect the container with bleach or ethanol. Rinse with water and wipe dry.

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Erytype Reaction Interpretation

An even RBC suspension. No agglutinates detected.

Negative

Weak granularity in the RBC suspension. Images that receive a +/- on TAG/QC will have ? for the overall interpretation.

+/-

Many small agglutinates with a lot of free cells.

+

Large agglutinates in a sea of smaller clumps. No free RBCs.

++

Strong reaction. A number of large agglutinates.

+++

A single agglutinate. No free RBCs detected.

++++

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Solidscreen II Reaction Interpretation

Compact cell button.

Negative

Cell button forming in the center of the well, some cells adhering to well bottom.

+/-

Some cells adhering to bottom of well, distinct settling of approximately 50% of the cells in the center of the well.

+

A layer of cells adhering to the bottom of the well, distinct settling of unattached cells toward center of well.

++

Homogenous layer of cells across the bottom, with some settling of unattached cells towards center of well.

+++

Homogenous layer of cells across the bottom of the well.

++++

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QC Requirements

QC samples are tested:

- Every 24 hours or per facility SOP
- When a new lot number is used on the TANGO **infinity**
- When a new preparation of Bromelin is placed on the TANGO **infinity**
- After service or repair is performed on the TANGO **infinity**
- After Monthly Maintenance

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QC Sample Requirements

ABO and Rh

- Hemo-QC commercial controls (Bio-Rad PN 616500100) or samples selected from previously tested samples up to 3 days old. (Samples up to 7 days may be used if necessary)
- Samples should be selected to provide a positive and negative reaction with every reagent.
  For example:
  AB Positive and O Negative
  A Positive and B Positive and O Negative

Antibody Screen and Identification

- Hemo-QC Control Kit PN 616500100 may be used
  - WBCTL-01: A2B RhD+ Screen Negative
  - WBCTL-02: O RhD+ Screen Positive Anti-Fya
  - WBCTL-03: A1 RhD - Screen Positive Anti-D

Solidscreen® II Control is an anti-D for use as a control

Solidscreen II Control B is an anti-c for use as a control

Solidscreen II Negative control is available as a negative control

Previously tested patient samples may also be used as controls

Ensure target values for positive antibody controls match current lot of screening cells

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Control Management

Loading & Running Controls

- Place properly barcoded control samples in "C" Rack. (Sample ID of a control begins with a lower case c).
  The first 3 digits of the sample barcode must match the designation in the Control Management Software of the TANGO.
- Ensure aliquot samples are placed into slots with spacers and full size tubes are placed into slots without spacers.
- Load the "C" rack into the sample area
- Select the controls to be tested and press "Request Manually"
- Press the "Start" button on Main Menu

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Flags Associated with Well/Sample Results

6	Sample: Clot detected
7	Reagent Bay (cooled): Temperature exceeded
10	Suspension: No liquid detected
11	Suspension: Maximum immersion depth reached during aspiration
14	Washer: Insufficient dispense during washing process
15	Washer: Insufficient aspiration during washing process
16	TANGO **infinity**® paused for more than one minute
17	Sample rack removed too early
19	Incubator temperature out of range
21	Reagent: Not pipetted
22	Reagent: Maximum dive-in depth reached during aspiration
23	Reagent: No liquid
26	Sample: No Plasma / Serum
27	Sample: Not enough Plasma / Serum

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Flags Associated with Well/Sample Results

29 OLV: Wrong volume aspirated
✕ Control Failed

 Current result discrepant with previous result

 Result edited manually

( ) Empty well for Erytype assays
[ ] Empty well for Solidscreen II assays
? Reaction strength can not be determined
X Invalid results in compatibility testing

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Reagent Usage

Reagent	Test	Vol. in Vial	Tests/Vial**	Vol./Test
Bromelin for Erytype*	ABO	50 mL	50 to 54	900 µL
Erytype cell A, Cells	ABO	10 mL	100	50 µL
Erytype cell B Cells	ABO	10 mL	100	50 µL
MLB 2	ABS	50 mL	577	84 µL
AHG, Anti-IgG Solidscreen II	ABS	55 mL	535	100 µL
Biotestcell Pool	ABS	10 mL	559	17 µL
Biotestcell 1 & 2, vial 1	ABS	10 mL	559	17 µL
Biotestcell 1 & 2, vial 2	ABS	10 mL	559	17 µL
Biotestcell 3, vial 1	ABS	10 mL	559	17 µL
Biotestcell 3, vial 2	ABS	10 mL	559	17 µL
Biotestcell 3, vial 3	ABS	10 mL	559	17 µL

Sample volume used for testing:
10 µL RBC for ABORh
100 µL plasma/serum for ABORh reverse (50 µL per well)
50 – 150 µL for antibody screen (50 µL per well)
* Diluted for use, as directed
** Accounts for Dead Volumes (1.5 mL in 50 – 55 mL bottle/0.5 mL in 10 mL bottle)

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Reagent Usage

Reagent	Test	Vol. in Vial	Tests/Vial**	Vol./Test
Solidscreen II Anti-D Blend	Weak D	4 mL	70	50 µL
MLB 2	Weak D	50 mL	82	590 µL
Alsevers	Weak D	50 mL	268	186 µL
AHG, Anti-IgG Solidscreen II	Weak D	55 mL	535	100 µL per well
MLB 2	DAT	50 mL	82	590 µL
Alsevers	DAT	50 mL	268	186 µL
AHG, Anti-IgG Solidscreen II	DAT	55 mL	535	100 µL per well
MLB 2	Crossmatch*/Auto Control	50 mL	82	590 µL
Alsevers	Crossmatch*/Auto Control	50 mL	268	186 µL
AHG, Anti-IgG Solidscreen II	Crossmatch*/Auto Control	55 mL	535	100 µL per well

Sample volume used for testing:

Weak D 50 µL of an approximate 1% cell suspension

DAT 50 µL of an approximate 1% cell suspension

Crossmatch* 50 µL of serum/plasma plus 50 µL of approximate 1% donor cell suspension

* Crossmatch is not FDA approved

** Accounts for Dead Volume (1 .5 mL for 50 –55 mL bottle/0 .5 mL for 5 mL bottle)

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Reagent Usage

Reagent	Test	Vol. in Vial	Tests/Vial**	Vol./Test
Biotestcell-II	8 Cell Antibody Identification	4 mL	70 panels	50 µL
MLB 2	8 Cell Antibody Identification	50 mL	676 wells; 72 panels	84 µL
AHG, Anti-IgG Solidscreen II	8 Cell Antibody Identification	55 mL	528 wells; 66 panels	100 µL
Biotestcell-11 and –11 Plus	11 Cell Antibody Identification	4 mL	70 panels	50 µL
MLB 2	11 Cell Antibody Identification	50 mL	572 wells; 52 panels	84 µL
AHG, Anti-IgG Solidscreen II	11 Cell Antibody Identification	55 mL	528 wells; 48 panels	100 µL

Sample volume used for testing:

Antibody Identification 50 µL per well

Rh+K Phenotype – 50 µL of an approximate 1% cell suspension

** Accounts for Dead Volumes (1.5 mL in 50 – 55 mL bottle/1 mL in 10 mL bottle)

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Required Reagents

ABO+Rh		Weak D Testing	
Product Code	Product Name	Product Code	Product Name
808 127 100	Erytype S ABD+Rev A,B	808 521 100	Solidscreen II
818 856 100	Erytypecell A,B & Reagent Red Blood Cells (A_1 & B cells)	805 200 100	MLB 2
808 210 100	Bromelin for Erytype	808 510 100	Alsevers Solution
		808 516 100	AHG, Anti-IgG Solidscreen II
		808 500 100	Solidscreen II Anti-D Blend

ABO Group		Rh Type	
Product Code	Product Name	Product Code	Product Name
808 130 100	Erytype S ABO Donor	808 190 100	Erytype S Rh Donor
808 210 100	Bromelin for Erytype	808 210 100	Bromelin for Erytype

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Required Reagents

Antibody Screen testing			
Product Code	Product Name	Product Code	Product Name
808 521 100	Solidscreen II	805 055 100	Biotestcell Pool Reagent Red Blood Cells
805 200 100	MLB 2	816 014 100	Biotestcell 1 & 2 Reagent Red Blood Cells
808 516 100	AHG, Anti-IgG Solidscreen II	816 086 100	Biotestcell 9 Reagent Red Blood Cells

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Required Reagents

Direct Antiglobulin Testing (DAT)		RH+K Phenotyping	
Product Code	Product Name	Product Code	Product Name
806 521 100	Solidscreen II	806 196 100	Erytype S Rh+K Type
805 200 100	MLB 2	806 210 100	Bromelin for Erytype
806 510 100	Alsevers Solution		
806 516 100	AHG, Anti-IgG Solidscreen II		

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Required Reagents

Antibody Identification		Crossmatch Testing/Auto Control	
Product Code	Product Name	Product Code	Product Name
806 521 100	Solidscreen II	806 521 100	Solidscreen II
805 200 100	MLB 2	805 200 100	MLB 2
806 516 100	AHG, Anti-IgG Solidscreen II	806 510 100	Alsevers Soution
816 020 100	Biotestcell – 6	806 156 100	AHG, Anti-IgG Solidscreen II
816 021 100	Biotestcells – I11		
816 022 100	Biotestcells – I11 Plus		

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Additional Supplies

Product Code	Product Name	Package Size
848 000 091	Bio-Rad PBS Concentrate	6 x 1L liquid concentrate
848 000 010	Cell mixers	20 mixers
25099	Microcide SQ™ Decontamination solution concentrate	250 mL
848 999 790	Cup and Bowl, Suspension	1 bowl, 1 cup
850 100 020	Cup and Bowl, Suspension	6 bowls, 6 cups
850 101 010	QC Barcode Set	14 sheets, 70 labels
850 800 080	Patient Sample Rack	1 Rack
850 800 100	Sample Rack Spacers	12 spacers per pack
848 000 190	50 mL bottles (empty for Bromelin)	2 Bottles
816 500 100	Hemo-QC	Set of 3 6 mL vials for TANGO or manual reagent QC. Recommendation of 1 vial per week for TANGO
806 514 100	Solidscreen II Control	4 mL positive control, Anti-D
806 519 100	Solidscreen Control B	4 mL positive control, Anti-c
806 509 100	Solidscreen Negative Control	4 mL negative control

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Product Codes for Lot Reports

Pool cells	131	Bromelin	200
Cell 1 of 2 screen	212	USS-MLB2	201
Cell 2 of 2 screen	213	Coombs	204
Cell 1 of 3 screen	214	ABD+Rev plates	013
Cell 2 of 3 screen	215	Solidscreen plates	060
Cell 3 of 3 screen	216	ABO donor plates	015
Erytype A1 cell	209	Rh donor plates	016
Erytype B cell	209	Solidscreen control	503
Alsevers	222	Solidscreen B ctrl	219
Anti-D blend	208	Solidscreen neg ctrl	220

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Refer to the current version of the TANGO **infinity**® User's Guide for complete information.

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