Alere Triage®
TOX Drug Screen Product Insert

Rapid Qualitative simultaneous detection of drug and/or the major urinary metabolites of 10 different drug classes (11 unique assays).

Triage®
TOX Drug Screen Product Insert

Catalog#: 94400

Intended Use

The Alere Triage® TOX Drug Screen is a fluorescence immunoassay to be used with the Alere Triage® Meters for the qualitative determination of the presence of drug and/or the major metabolites above the threshold concentrations of up to 10 distinct drug classes, including assays for acetaminophen/paracetamol, amphetamines, methamphetamines, barbiturates, benzodiazepines, cocaine, methadone, opiates, phencyclidine, THC and tricyclic antidepressants in urine. The acetaminophen/paracetamol assay will yield positive results when acetaminophen/paracetamol is ingested at or above therapeutic doses.

The threshold concentrations are provided below:

Acetaminophen/Paracetamol	**APAP**	5 µg/mL
Amphetamines	**AMP**	1000 ng/mL
Methamphetamines	**mAMP**	1000 ng/mL
Barbiturates	**BAR**	300 ng/mL
Benzodiazepines	**BZO**	300 ng/mL
Cocaine	**COC**	300 ng/mL
Methadone	**MTD**	300 ng/mL
Opiates	**OPI**	300 ng/mL
Phencyclidine	**PCP**	25 ng/mL
THC	**THC**	50 ng/mL
Tricyclic Antidepressants	**TCA**	1000 ng/mL

This test provides only a preliminary result. Clinical consideration and professional judgment must be applied to any drug of abuse test result, particularly in evaluating a preliminary positive result. In order to obtain a confirmed analytical result, a more specific alternate chemical method is needed. Gas Chromatography/Mass Spectrometry (GC/MS), Liquid Chromatography/ Mass Spectrometry/ Mass Spectrometry (LC/MS/MS) and High Performance Liquid Chromatography (HPLC) are common confirmatory methods.

A quantitative serum acetaminophen/paracetamol measurement is the common confirmatory method for preliminary positive acetaminophen/paracetamol results.

Summary and Explanation of the Test

Drug abuse in the United States continues to be an increasingly significant social and economic problem. Opiates, cocaine, THC, amphetamines and phencyclidine are recognized by the Substance Abuse and Mental Health Services Administration (SAMHSA) as the most frequently abused illicit drugs. Benzodiazepines, tricyclic antidepressants, barbiturates and opiate compounds are among a group of prescription drugs that also are frequently abused. Acetaminophen/paracetamol overdose is a significant concern due to the risk of hepatotoxicity. The opiate class of compounds that may produce a positive result include illicit opiates as well as cough medications containing codeine. Methadone, although known for its use in the maintenance treatment of heroin addicts, has abusive potential because it produces morphine-like drug dependence.

Urine-specific screening tests for drugs of abuse range from simple immunoassay tests to complex analytical procedures. The speed and sensitivity of immunoassays have made them the most accepted method for screening urine for the presence of drugs.

The Alere Triage® TOX Drug Screen uses distinct immunoassays for the simultaneous detection of drug and/or the major urinary metabolites of 10 different drug classes (11 unique assays). The use of monoclonal antibodies that are specific for the metabolites of the 10 drug classes ensures a high degree of sensitivity and specificity.

Principles of the Test Procedure

The Alere Triage® TOX Drug Screen is a competitive fluorescence immunoassay designed for the qualitative determination of parent drugs and/or drug metabolites in urine specimens.

The test procedure involves the addition of a urine specimen to the sample port on the Test Device. After addition of the specimen, the urine passes through a filter. The specimen reacts with fluorescent antibody conjugates or with fluorescent drug conjugates and flows through the Test Device by capillary action. The presence of drug or drug metabolite in the urine specimen prevents binding of the fluorescent conjugates to the solid phase on the detection zone. Excess urine washes the unbound fluorescent conjugates from the detection lane into a waste reservoir.

The Test Device is inserted into the Alere Triage® Meters (hereafter referred to as Meter). The Meter is programmed to perform the analysis after the specimen has reacted with the reagents within the Test Device. The analysis is based on the amount of fluorescence the Meter detects within a measurement zone on the Test Device. The positive or negative results are displayed on the Meter screen in approximately 15 minutes from the addition of specimen. All results are stored in the Meter memory to display or print when needed. If connected, the Meter can transmit results to the laboratory or hospital information system.

Reagents and Materials Provided

The Test Device contains all the reagents necessary for the qualitative determination of drugs and/or their metabolites in human urine.

The Test Device Contains:

- Murine monoclonal antibodies against drug metabolites
- Fluorescent dye
- Stabilizers

Alere Triage® TOX Drug Screen Catalog # 94400

Kit contains:

TEST DEVICE	25	Test Devices
	25	Transfer Pipettes
	1	Reagent CODE CHIP™ Module
	2	Printer Paper Rolls

Materials Required but Not Provided

Alere Triage® MeterPro	Catalog # 55070 or 55071
or Triage® MeterPlus	Catalog # 55040 or 55041
Alere Triage® TOX Drug Screen Control 1	Catalog # 94413
Alere Triage® TOX Drug Screen Control 2	Catalog # 94414

Warnings and Precautions

- For *In Vitro* Diagnostic Use.
- For use by healthcare professionals.
- Do not use the kit beyond the expiration date printed on the outside of the box.
- Carefully follow the instructions and procedures described in this insert.
- Optimal results will be achieved by performing testing at temperatures between 20-24°C (68-75°F).
- Keep the Test Device in the sealed pouch until ready for immediate use. Discard after single use.
- The transfer pipette should be used for one patient specimen only. Discard after single use.
- Sample dilution is not recommended.
- The use of non-Alere Control materials is not recommended.
- Patient specimens, used Test Devices and used transfer pipettes are potentially infectious. Proper handling and disposal methods should be established by the laboratory in accordance with local, state and federal regulations.

Storage and Handling Requirements

- Store the Test Devices in a refrigerator at 2-8°C (35-46°F).
- Once removed from refrigeration, the pouched Test Device is stable for up to 14 days at room temperature, but not beyond the expiration date printed on the pouch. With a soft, felt tip marker, gently write the date and time of removal from the refrigerator on the pouch and cross out the manufacturer expiration date printed on the pouch. Care must be taken to document the time the product is at room temperature. Once equilibrated to room temperature, do not return the Test Device to refrigeration.
- Before using refrigerated Test Devices, allow individual foil pouches to reach operating temperature (20-24°C or 68- 75°F). This will take a minimum of 15 minutes. If a kit containing multiple Test Devices is removed from refrigeration, allow the kit to reach room temperature before use. This will take a minimum of 60 minutes.
- Do not remove the Test Device from the pouch until prepared for immediate use.

Specimen Collection and Preparation

- Freshly voided urine specimens should be collected in a clean, previously unused glass or plastic container.
- Specimens containing a large amount of particulate matter may be clarified by centrifuging or allowing to settle prior to testing.
- If the specimen is not tested immediately it should be refrigerated at 2-8°C for a maximum of two days. If longer storage is required, specimens may be stored frozen at –20°C or colder. No more than a single freeze/thaw cycle is recommended.

Test Procedure

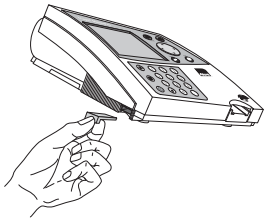
Lot Calibration Using the Reagent CODE CHIP™ Module

When a new lot of Test Devices is opened, the calibration and expiration data for that lot of Test Devices must be transferred to the Meter before patient testing. Use the Reagent CODE CHIP™ module supplied with the new lot of Test Devices to transfer the data to the Meter.

Reagent CODE CHIP™ Module

Perform one time for each new lot of Test Devices

1. From the main screen, select **Install New Code Chip**. Press **Enter**.
2. Place the Reagent CODE CHIP™ module into the lower left front corner of the Meter and follow the prompts on the screen.



3. Remove the Reagent CODE CHIP™ module from the Meter when data transfer is complete.
4. Place the Reagent CODE CHIP™ module back into its original container for storage.

Testing Patient Specimens

Procedural Notes

- For each day of patient testing, perform QC Device testing. Refer to the Quality Control Considerations section.
- Frozen and refrigerated specimens must be allowed to reach room temperature and be mixed thoroughly prior to testing.
- If the transfer pipette is misplaced, the addition of patient specimen may be performed with a calibrated precision pipette, adding 250uL of specimen to the Test Device.

Step 1 Add Patient Specimen

1. Open the pouch and label the Test Device with the patient identification number.
2. Place the Test Device on a level, horizontal surface.
3. Using the transfer pipette, squeeze the larger (top) bulb completely and insert the tip into the patient specimen.
4. Release the bulb slowly. The transfer pipette barrel should fill completely with some fluid flowing into the smaller (lower) bulb.
   Note: Ensure that the pipette is not under filled or over filled. An under filled pipette is one where the barrel is not filled completely with specimen and there is no specimen in the lower bulb. An over filled pipette is one where there is some specimen in the top bulb. Ideally the lower bulb should contain a small amount of specimen (less than one quarter the volume of the lower bulb).
5. Place the tip of the transfer pipette into the sample port of the Test Device and squeeze the larger bulb completely. The entire volume of fluid in the transfer pipette barrel must flow into the sample port. The specimen in the smaller (lower) bulb will not be expelled.
   Note: Too much specimen has been added to the device if the specimen has migrated outside of the sample port and on to the label.
6. Remove the transfer pipette tip from the sample port and then release the larger (top) bulb.
7. Discard the transfer pipette.
8. Allow specimen to absorb completely before moving the Test Device.

Step 2 Run Test

1. From the main screen, select **Run Test** and press **Enter**.
2. Select **Patient Sample** and press **Enter**.
3. Enter the patient identification number and press **Enter**.
4. Confirm that the number was entered correctly by selecting **Confirm Patient ID** and pressing **Enter**. If the number was not entered correctly, select **Correct Patient ID**, press **Enter** and repeat the previous step.
5. Holding the Test Device by the edges, insert the Test Device into the Meter and press **Enter**. The results will be displayed when the analysis is complete.

Note: The Test Device must be inserted into the Meter within 30 minutes from the time the patient specimen was added. A delay longer than 30 minutes may cause the results to be invalid and blocked out on the printout.

Step 3 Read The Results

1. Results may be printed by pressing the **Print** button.
2. Discard the Test Device after release from the Meter.
3. A blocked out result indicates the result was invalid and the test should be repeated.

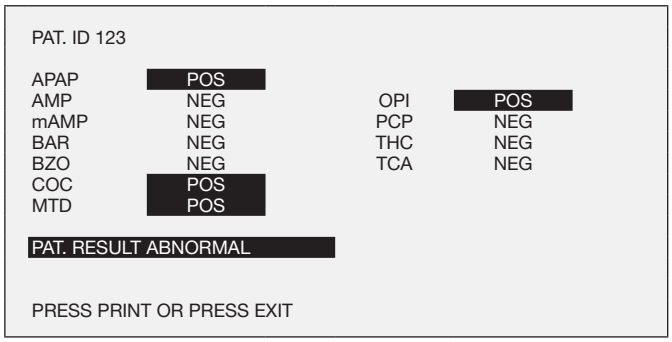
Results

The following threshold concentrations are established for the drug assays:

Acetaminophen/Paracetamol	**APAP**	5 µg/mL
Amphetamines	**AMP**	1000 ng/mL
Methamphetamines	**mAMP**	1000 ng/mL
Barbiturates	**BAR**	300 ng/mL
Benzodiazepines	**BZO**	300 ng/mL
Cocaine	**COC**	300 ng/mL
Methadone	**MTD**	300 ng/mL
Opiates	**OPI**	300 ng/mL
Phencyclidine	**PCP**	25 ng/mL
THC	**THC**	50 ng/mL
Tricyclic Antidepressants	**TCA**	1000 ng/mL

These threshold concentrations are used to separate a negative result from a presumptive positive result. Results are displayed in the following manner:

Example



The Meter displays the results as either “POS” if the result is at or above the threshold or “NEG” if the result is below the threshold. The operator has the option to print the results.

For additional information refer to the Alere Triage® Meter User Manual.

The APAP assay is designed to yield positive results following ingestion of acetaminophen/paracetamol at or above therapeutic doses. Urine specimens from 15 healthy individuals who were not currently taking acetaminophen/paracetamol all yielded negative APAP results using the Alere Triage® TOX Drug Screen. Multiple urine specimens were collected

from the same individuals following ingestion of 1,000 mg acetaminophen/paracetamol 30 minutes after ingestion and over the course of 2.5 to 9 hours. All urine specimens collected post-ingestion yielded positive APAP results using the Alere Triage® TOX Drug Screen.

A specimen may contain drug and/or drug metabolites at concentrations that do not exceed the threshold concentrations that would otherwise classify the test result as positive. In order to obtain a confirmed analytical result, a more specific alternate chemical method is needed. Gas Chromatography/Mass Spectroscopy (GC/MS) is the preferred confirmatory method. A quantitative serum acetaminophen/paracetamol measurement is the common confirmatory method for preliminary positive acetaminophen/paracetamol results. Refer to the Performance Characteristics section for additional information.

Quality Control Considerations

CLIA Quality Control Considerations

Every Alere Triage® TOX DS Test Device is a qualitative test device that includes negative and positive controls that are run automatically with every patient specimen, external liquid control solution, or proficiency testing sample. If the automatic check of these built-in controls shows that the control value results are within the limits set during manufacturing, the Meter will report a result for the specimen or sample being tested. If the automatic check of these built-in controls shows that the control value results are not within the limits set during manufacturing, a test result will not be reported. Instead, the Meter will display a warning or error message that is described in the Alere Triage® Meter User Manual.

Good Laboratory Practice suggests that external controls should be tested with each new lot or shipment of test materials, or every 30 days, and as otherwise required by your laboratory's standard quality control procedures. Controls should be tested in the same manner as if testing patient specimens. When running patient specimens or external controls, if an analyte fails for any reason (built-in control failure or an external control out of range) no patient results will be reported.

Users should follow government guidelines (for example, federal, state or local) and/or accreditation requirements for quality control.

Performing Alere Triage® System Quality Control – QC Device

Use the QC Device to ensure proper function of the Meter. Perform QC Device testing for the following conditions:

- Upon initial setup of the Meter.
- Each day of patient testing.
- When the Meter has been transported or moved.
- Whenever there is uncertainty about the performance of the Meter.
- Whenever required by your laboratory's quality control requirements.

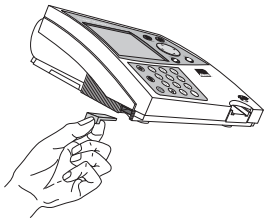
Do not discard the Alere Triage® QC Device and associated CODE CHIP™ module. Store them in the QC Device Box.

Refer to the Alere Triage® Meter User Manual for complete instructions on use of the QC Device.

1. The first time a new QC Device is run in the Meter, install the QC Device CODE CHIP™ module. The QC Device CODE CHIP™ module data is stored in the Meter memory. The QC Device CODE CHIP™ module does not need to be reinstalled after the first time.

QC Device CODE CHIP™ Module

   a. From the main screen, select **Install New Code Chip** and press **Enter**.
   b. Place the QC Device CODE CHIP™ module into the lower left front corner of the Meter. Follow the prompts on the screen.



   c. Remove the QC Device CODE CHIP™ module from the Meter when data transfer is complete.
   d. Place the QC Device CODE CHIP™ module back into the QC Device Box for storage.
2. From the main screen, select **Run Test** and press **Enter**.
3. If User ID is enabled enter your User ID number and press **Enter**.
4. Select **QC Device** and press **Enter**.
5. Insert QC Device into the Meter and press **Enter**.
6. A Pass or Fail result will be displayed when complete. Each parameter should pass before patient testing is performed.
7. Remove the QC Device from the Meter and place in the QC Device Box. **DO NOT DISCARD THE QC DEVICE.**

Note: If the QC Device or external controls do not perform as expected, review the above instructions to see if the test was performed correctly, repeat the test, then contact Alere or your local Alere representative (refer to Contact Alere section). Refer to the Alere Triage® Meter User Manual for a complete description of the quality control system.

Limitations of the Test Procedure

- Adulterants, such as bleach or other strong oxidizing agents, added to urine specimens may produce erroneous results regardless of the method of analysis. If adulteration is suspected, obtain an additional specimen and re-test using a new Test Device.
- There is a possibility that substances and/or factors may interfere with the test and cause false results. Technical or procedural errors can also contribute to erroneous results.
- A presumptive positive result does not indicate the level of intoxication, nor does it indicate the route of administration.
- There are no uniformly recognized threshold concentrations for urine-based acetaminophen/ paracetamol assays. The test indicates that the analyte was or was not present above the threshold concentration.
- Test results must always be evaluated with other data available to the physician.
- The performance of this product has been established for human urine only. Other specimen types have not been evaluated.

Performance Characteristics

Threshold Validation

Specimens used for threshold validation contained each drug or drug metabolite spiked into drug-free urine at concentrations in increments of 25% above and below the threshold. Each specimen was tested using the Alere Triage® TOX Drug Screen. The data paralleled the expected agreement based on the Coefficient of Variation of the assays. It is important to use sound clinical judgment with any result, particularly those near the threshold concentration. If an aberrant result is suspected, the sample should be re-tested using the Alere Triage® TOX Drug Screen or a reference method such as GC/MS.

50% Below Threshold

	APAP	AMP	mAMP	BAR	BZO	COC	MTD	OPI	PCP	THC	TCA
Concentration	2.5	500	500	150	150	150	150	150	12.5	25	500
Positive/Negative	0/10	0/10	0/10	0/10	0/10	0/10	0/10	0/10	0/10	0/10	0/10
Accuracy	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

25% Below Threshold

	APAP	AMP	mAMP	BAR	BZO	COC	MTD	OPI	PCP	THC	TCA
Concentration	3.75	750	750	225	225	225	225	225	18.75	37.5	750
Positive/Negative	4/26	0/30	0/30	1/29	0/30	1/29	0/30	0/30	1/29	0/30	0/30
Accuracy	87%	100%	100%	97%	100%	97%	100%	100%	97%	100%	100%

25% Above Threshold

	APAP	AMP	mAMP	BAR	BZO	COC	MTD	OPI	PCP	THC	TCA
Concentration	6.25	1250	1250	375	375	375	375	375	31.25	62.5	1250
Positive/Negative	28/2	30/0	29/1	28/2	30/0	29/1	28/2	25/5	27/3	30/0	28/2
Accuracy	93%	100%	97%	93%	100%	97%	93%	83%	90%	100%	93%

50% Above Threshold

	APAP	AMP	mAMP	BAR	BZO	COC	MTD	OPI	PCP	THC	TCA
Concentration	7.5	1500	1500	450	450	450	450	450	37.5	75	1500
Positive/Negative	10/0	10/0	10/0	10/0	10/0	10/0	10/0	10/0	10/0	10/0	10/0
Accuracy	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Specificity

The specificity of each of the 11 assays in the Alere Triage® TOX Drug Screen has been tested with over 100 drugs and closely related compounds. Representative data are listed below, expressed as the concentration that produced a positive result during development studies. The individual assays are calibrated against the compounds marked with an asterisk (*).

Acetaminophen/Paracetamol	**µg/mL**
Acetaminophen*	5
Amphetamines	**ng/mL**
d-Amphetamine*	1,000
l-Amphetamine	63,500
MDA	3,700
Chloroamphetamine, 4-	2,300
Methamphetamines	**ng/mL**
Ethylamphetamine	12,500
Isometheptine	100,000
MDEA	4,600
MDMA	1,500
d-Methamphetamine*	1,000
l-Methamphetamine	30,500
Propylamphetamine	>200,000
Barbiturates	**ng/mL**
Allobarbital	150
Amobarbital	100
Aprobarbital	200
Barbital	150
Butabarbital	200
Butalbital	150
Butethal	50
Cyclopentobarbital	100
Hexobarbital	>100,000
Hydroxyphenobarbital, p-	350
Mephobarbital	20,000
Metharbital	1,400
Phenallymal	100
Pentobarbital*	300
Phenobarbital	150
Secobarbital	300
Talbutal	200
Thiopental	>100,000

Benzodiazepines	**ng/mL**
Alprazolam	100
Alprazolam, -OH	100
Alprazolam glucuronide, -OH	150
Bromazepam	750
Chlordiazepoxide	13,000
Clonazepam	650
Clorazepate	1,600
Demoxepam	7,700
Desalkylflurazepam	200
Diazepam	200
Estazolam*	300
Flunitrazepam	150
Flurazepam	100
Halazepam	100
Lorazepam	200
Lorazepam glucuronide	300
Medazepam	32,000
Nitrazepam	2,600
Norchlordiazepoxide	24,500
Nordiazepam	700
Oxazepam	3,500
Oxazepam glucuronide	1,100
Prazepam	1,400
Temazepam	200
Temazepam glucuronide	1,000
Triazolam	50

Cocaine	**ng/mL**
Benzoylecgonine*	300
Cocaethylene	165,000
Ecgonine	133,000
Ecgonine methyl ester	>200,000
Propylbenzoylecgonine	>200,000

Methadone	**ng/mL**
l-methadone	175
d-methadone	14,000
d/l-methadone*	300

Opiates	**ng/mL**
Acetylcodeine, 6-	250
Acetylmorphine, 6-	300
Codeine	300
Diacetylmorphine	300
Dihydrocodeine	250
Ethylmorphine	300
Hydrocodone	1,700
Hydromorphone	1,700
Morphine*	300
Morphine 3- glucuronide	450
Nalorphine	1,900
Norcodeine	23,000
Normorphine	>150,000
Oxycodone	23,000
Oxymorphone	41,000
Thebaine	24,000

PCP	**ng/mL**
PCP*	25

THC	**ng/mL**
11-nor-9 carboxy-Δ^9-THC*	50
11-nor-9 carboxy-Δ^9-THC-glucuronide	50
Cannabinol, Δ^8-	>2,000
Cannabinol, Δ^9-	>2,000

Tricyclic Antidepressants	**ng/mL**
Amitriptyline	750
Amitryptyline metabolite	250
Chlorpromazine†	>400,000
Chlorprothixene†	84,000
Clomipramine	12,500
Cyclobenzaprine†	1,900
Desipramine*	1000
Doxepin	1,300
Imipramine	600
Maprotiline†	176,000
Nordoxepin	1,500
Nortriptyline	1,100
Perphenazine†	>300,000
Phenothiazine†	>300,000
Promazine†	77,000
Protriptyline	3,300
Thiothixene†	46,000
Trimeprazine†	83,500
Trimipramine	3,000

† Structurally related compounds

Pharmaceuticals

The following compounds were found not to cross-react when tested at concentrations up to at least 100 µg/mL (unless otherwise indicated in parentheses).[1]

Acetopromazine	Methylphenidate
Benzphetamine	Naloxone (80)
Benztropine Methane	Naproxen
Bupropion	Norpsuedoephedrine
Butyrophenone	Phenethylamine
Cimetidine	Phenmetrazine
Clonidine	Phentermine
Cotinine	Phenylephrine
Dextromethorphan	Phenylhydantoin, d/l-5-(p-hydroxyphenyl)-5-
Dextrorphan	Phenylpropanolamine
Diphenhydramine	Promethazine
Dopamine	Propanolol, d/l
Doxylamine Succinate (60)	Propoxyphene
Epinephrine, l-	Pseudoephedrine, d-
Fenfluramine (20)	Quinacrine
Glutethimide	Ranitidine
Ketorolac Tromethamine	Thioridazine
Levorphanol (50)	Tramadol
Meperidine	Tyramine (60)
Mesoridazine	Tranylcypromine
Methaqualone	Zolpidem
Methoxyphenamine	

There have been reports of false positive urine screening tests for tetrahydrocannabinol (THC) in patients receiving pantoprazole, a proton pump inhibitor. As with all positive results, clinical consideration and professional judgment must be applied to any drug of abuse test result, which may include medication lists. A more specific alternate method may be used to obtain a confirmed result if needed.

Interference

Potential interfering substances were evaluated by adding the substance to human urine spiked with drug 25% above and 25% below the threshold concentration. Each specimen was evaluated on the Alere Triage® TOX Drug Screen. The following substances did not produce false positive or false negative results when tested at the following concentrations:

Substance	Concentration
Acetaminophen*	1 mg/mL
Acetone	5 mg/mL
Acetylsalicylic Acid	1 mg/mL
Ascorbic Acid	15 mg/mL
Bilirubin	2.5 µg/mL
Caffeine	0.125 mg/mL
Creatinine	2.5 mg/mL
Dextrose	20 mg/mL
Ethanol	5 mg/mL
Fluoxetine	0.5 mg/mL
Gamma Globulin	5 mg/mL
Hemoglobin	1.2 mg/mL
Human Serum Albumin	5 mg/mL
Ibuprofen	1 mg/mL
Ketamine	25 µg/mL
Oxalic Acid	2.5 mg/mL
Riboflavin	75 µg/mL
Scopalamine	62.5 µg/mL
Sodium Chloride	30 mg/mL
Urea	30 mg/mL

* Refer to the Specificity section for the Acetaminophen/Paracetamol assay.

In addition, the effects of pH and specific gravity were determined by testing specimens with having a range of pH values and specimens having a range of specific gravity values. Each specimen was tested using the Alere Triage® TOX Drug Screen and the measured concentrations were plotted as a function of either pH or specific gravity. There was no significant effect of pH and specific gravity on the misclassification of results observed within the normal ranges (pH 4.5-8.0; specific gravity 1.002-1.030).

Accuracy

The performance of the Alere Triage® TOX Drug Screen was evaluated using clinical urine specimens and compared to the reference methods. GC/MS was the reference method used for all assays with the exception of TCA, for which HPLC was the reference method used. Positive specimens that were previously evaluated for the presence of each of the specific drugs using reference methods were re-evaluated using the Alere Triage® TOX Drug Screen. Comparisons between the reference values and the Alere Triage® TOX Drug Screen were made using the thresholds described earlier. The results are presented below.

APAP

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	0	3	12	27
Negative	55	5	0	0

% Agreement = 97.1%

Note: The Alere Triage® TOX Drug Screen positive, GC/MS negative contain APAP determined by GC/MS to be within approximately 10% of the threshold concentration.

AMP

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	0	1	2	36
Negative	53	8	2	0

% Agreement = 97.1%

Note: The Alere Triage® TOX Drug Screen positive, GC/MS negative and all of the Alere Triage® TOX Drug Screen negative, GC/MS positive specimens contain AMP determined by GC/MS to be within approximately 10% of the threshold concentration.

mAMP

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	1	1	5	34
Negative	51	9	1	0

% Agreement = 97.1%

Note: One of the Alere Triage® TOX Drug Screen positive, GC/MS negative and the Alere Triage® TOX Drug Screen negative, GC/MS positive specimens contain mAMP at concentrations determined by GC/MS to be within approximately 10% of the threshold concentration. The additional Alere Triage® TOX Drug Screen positive, GC/MS negative specimen contained a significant amount of mAMP as determined by GC/MS and yielded a result on the Alere Triage® TOX Drug Screen that was only 1% above the threshold concentration.

BAR

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	3	5	5	33
Negative	35	0	0	0

% Agreement = 90.1%

Note: Discrepant samples were evaluated by comparing the Alere Triage® TOX Drug Screen BAR values with GC/MS values and the metabolites present. Seven of the eight specimens that were classified as negative by GC/MS but positive by the Alere Triage® TOX Drug Screen contained either butalbital or phenobarbital at concentrations determined by GC/MS to be above those required to yield a positive result on the Alere Triage® TOX Drug Screen (see the section on Specificity above). The additional GC/MS negative, Alere Triage® TOX Drug Screen positive sample contained butalbital at a concentration that was determined by GC/MS to be within about 6% of that required to yield a positive on the Alere Triage® TOX Drug Screen.

BZO

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	0	1	5	41
Negative	35	1	1	0

% Agreement = 97.6%

Note: Discrepant samples were evaluated by comparing the Alere Triage® TOX Drug Screen BZO values with GC/MS values and the metabolites present. The specimen that was positive by GC/MS but negative by the Alere Triage® TOX Drug Screen contained oxazepam at a concentration determined to be below that required to yield a positive on the Alere Triage® TOX Drug Screen (see the section on Specificity above). The specimen that was negative by GC/MS but positive by the Alere Triage® TOX Drug Screen contained a BZO at a concentration determined by GC/MS to be within 20% of the threshold concentration.

COC

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	0	0	2	32
Negative	39	7	3	0

% Agreement = 96.4%

Note: All of the Alere Triage® TOX Drug Screen negative, GC/MS positive specimens contain COC determined by GC/MS to be within 15% of the threshold concentration.

MTD

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	4	5	5	40
Negative	46	2	0	0

% Agreement = 94.1%

Note: All of the Alere Triage® TOX Drug Screen positive, GC/MS negative samples contained measurable amounts of methadone (>100 ng/mL), and 8 of the 9 samples contained concentrations greater than the threshold value established for l-methadone of 175 ng/mL. Since GC/MS is unable to distinguish between the two enantiomeric forms, if the methadone form present in these patient samples is l-methadone, the percent agreement between the two methods would be 99%.

OPI

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	0	4	8	37
Negative	36	3	0	0

% Agreement = 95.5%

Note: All of the specimens that tested negative by GC/MS but positive by the Alere Triage® TOX Drug Screen contained OPI at concentrations determined by GC/MS to be within 20% of the threshold concentration.

PCP

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	0	1	5	30
Negative	36	5	2	2

% Agreement = 93.8%

Note: The specimen that was positive by the Alere Triage® TOX Drug Screen and negative by GC/MS, as well as two of the specimens that were negative by the Alere Triage® TOX Drug Screen and positive by GC/MS contained PCP at concentrations determined by GC/MS to be within 25% of the threshold concentration.

THC

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	0	7	6	30
Negative	37	1	0	0

% Agreement = 91.4%

Note: Discrepant samples were evaluated by comparing the Alere Triage® TOX Drug Screen THC values with GC/MS values. The Mandatory Guidelines for Federal Workplace Drug Testing Programs published by SAMHSA in 1994 indicate that samples containing marijuana metabolite >15ng/mL are considered positive by GC/MS. Applying this criterion to the GC/MS results resolved all results classified as negative by GC/MS and positive by the Alere Triage® TOX Drug Screen in the above contingency table but produced one specimen classified as positive by GC/MS and negative by the Alere Triage® TOX Drug Screen, yielding a percent agreement of 98.8%.

TCA

Alere Triage® TOX	Negative (<25% below threshold)	Near Threshold Negative (within 25% below threshold)	Near Threshold Positive (within 25% above threshold)	Positive (>25% above threshold)
Positive	0	4	8	27
Negative	35	2	3	0

% Agreement = 91.1%

Note: All of the specimens that were positive by the Alere Triage® TOX Drug Screen and negative by the reference method, as well as all of the specimens that were negative by the Alere Triage® TOX Drug Screen and positive by the reference method contained TCA at concentrations determined by the reference method to be within 25% of the threshold concentration.

Bibliography of Suggested Reading

1. Data on file at Alere San Diego, Incorporated.
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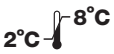
3. Urine Testing for Drugs of Abuse, *NIDA Research Monograph* **73**, 1986.
4. Federal Register, Department of Health and Human Services, *Mandatory Guidelines for Federal Workplace Testing Programs*. **59**, **110**, 29908-29931, 1994; **53**, **69**, 11970-11979, 1988.
5. *The Pharmacological Basis of Therapeutics*, A.G. Gilman, L.S. Goodman, and A. Gilman eds. MacMillan Publishing, New York, NY, 1980.

Glossary of Symbols

 Do not reuse	 Use by	 Batch code
 Catalog number	 Consult instructions for use	 Manufacturer
 Authorized representative in the European Community	 *In Vitro* diagnostic medical device	 Store at 2 - 8°C
 Test Device	 Contents	 Transfer pipette
 Patient number	 Printer paper	 CODE CHIP™ module
 Add sample immediately after opening foil pouch.	 Use urine sample only.	 Add sample here
 Peel open here	 CE Mark	

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Revision Changes:

- Updated Warnings and Precaution, Specimen Collection and Preparation, and Testing Patient Specimens sections.
- Added information regarding false positives to Specificity section.
- Updated Latin American Support phone number.
- Removed “Made in USA” statement.
- Removed Patents.

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