

# PROCALCITONIN (PCT) ASSAY

Sepsis  
Marker

Diazyme Laboratories, Inc. introduces the first homogeneous FDA 510k cleared PCT assay for use on validated clinical chemistry analyzers thereby eliminating the need for high priced dedicated instrumentation. Diazyme's PCT assay is a cost effective latex enhanced immunoturbidimetric methodology which utilizes multiple monoclonal antibodies for enhanced assay sensitivity and specificity. In a recent multicenter study, the performance of the Diazyme PCT method was found to be aligned with the VIDAS® B•R•A•H•M•S PCT™ Assay.<sup>1</sup>

## **DIAZYME PCT ASSAY ADVANTAGES**

- Fast test results (10 minutes) for a rapid turnaround time
- Low sample volume required
- Wide range of instrument parameters available for simplifying implementation
- Liquid stable reagent kit, calibrator and control sets offered separately
- Liquid stable format requires no reagent preparation saving time and reducing sample handling

## **REGULATORY STATUS**

510(k) Cleared; EU:  ;

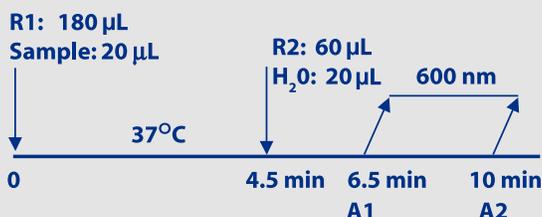
Health Canada Registered

## ASSAY SPECIFICATIONS

<b>Method</b>	Latex Enhanced Immunoturbidimetric
<b>Sample Type &amp; Volume</b>	<ul style="list-style-type: none"> <li>Serum</li> <li>Plasma                             <ul style="list-style-type: none"> <li>- EDTA</li> <li>- Li-heparin</li> </ul> </li> </ul> <p>Sample Volume 20 µL</p>
<b>Method Comparison</b>	<p>Regular Regression: N = 219 y-intercept = -0.225 Slope = 1.041 R<sup>2</sup> = 0.9837</p> <p>Sample Range = 0.21 - 51.26 ng/mL</p>
<b>Linearity</b>	Up to 52 ng/mL
<b>LOB LOD LOQ</b>	<p>0.06 ng/mL</p> <p>0.16 ng/mL</p> <p>0.20 ng/mL*</p>
<b>Calibration Levels</b>	6-Point Calibration
<b>Reagent On-Board Stability</b>	<p>Opened:</p> <p>Four weeks on board analyzer</p>

\*Results below 0.20 ng/mL are reported as < 0.20 ng/mL

### PCT Assay Procedure\*\*



\*\*Analyzer Dependent

For a list of validated parameters please contact  
Diazyme technical support at 858-455-4768  
or email [support@diazyme.com](mailto:support@diazyme.com)

1. Dipalo, Mariella, Lorena Guido, Gianmatteo Micca, Salvatore Pittalis, Massimo Locatelli, Andrea Motta, Vincenza Bianchi, Tiziana Callegari, Rosalia Aloe, Giorgio Da Rin, and Giuseppe Lippi. "Multicenter Comparison of Automated Procalcitonin Immunoassays." *Practical Laboratory Medicine* 2 (2015): 22-28. Web.

## ASSAY PRECISION

The precision of the Diazyme PCT Assay was evaluated according to CLSI EP5-A2 guideline. In the study, six serum samples and 2 levels of serum based controls were tested in duplicate per run, 2 runs per day for 20 days using three lots of the reagents. The results of the within-run, between-run, between-day, between-lot, and total CV% for three lots of the reagent combined are listed in the following table (N=240):

## INTERNAL PRECISION

Sample	Mean ng/mL	Within-Run SD/CV%	Between-Run SD/CV%	Between-Day SD/CV%	Between-lot SD/CV%	Total SD/CV%
S1	0.27	0.034 / 12.3%	0.027 / 10.0%	0.019 / 6.9%	0.047 / 17.3%	0.047 / 17.3%
S2	0.48	0.035 / 7.3%	0.033 / 6.8%	0.031 / 6.4%	0.057 / 11.8%	0.057 / 11.9%
S3	1.80	0.062 / 3.4%	0.032 / 1.8%	0.059 / 3.2%	0.09 / 5.0%	0.091 / 5.0%
S4	5.30	0.085 / 1.6%	0.140 / 2.6%	0.130 / 2.5%	0.21 / 3.9%	0.209 / 4.0%
S5	23.56	0.058 / 2.5%	0.482 / 2.0%	0.891 / 3.8%	1.20 / 5.1%	1.168 / 5.0%
S6	47.65	0.069 / 1.5%	0.712 / 1.5%	0.657 / 1.4%	1.18 / 2.5%	1.196 / 2.5%
Con 1	1.16	0.046 / 4.0%	0.038 / 3.3%	0.031 / 2.7%	0.07 / 5.8%	0.068 / 5.8%
Con 2	18.30	0.477 / 2.6%	0.126 / 0.7%	0.751 / 4.1%	0.88 / 4.8%	0.899 / 4.9%

## ASSAY INTERFERENCE

The following substances normally present in the samples produced less than 10 deviation when tested at levels equal to the concentrations listed below.

Interference Substances	Concentration	Interference Substances	Concentration
Ascorbic acid	129 mg/dL	Albumin	4 g/dL
Free Bilirubin	30 mg/dL	Human Calcitonin	60 ng/mL
Bilirubin Conjugated	30 mg/dL	Human Katakalcin	10 ng/mL
Hemoglobin	750 mg/dL	Human alpha-CGRP	10 µg/mL
Triglyceride	750 mg/dL	Human beta-CGRP	10 µg/mL
Rheumatoid Factor	75 IU/mL	Human Anti-mouse IgG (HAMA)	350 ng/mL

The following therapeutic drugs showed no significant interference (< ± 10%) up to the concentrations summarized below.

Tested Drugs	Concentration	Tested Drugs	Concentration
Imipenem	0.5 mg/mL	unfractionated Heparin	16,000 U/L
Cefotaxime	180 mg/dL	Furosemide	4 mg/dL
Noradrenalin	4 µg/mL	Vancomycin	3 mg/mL
Dobutamine	22.4 µg/mL	Dopamine	26 mg/dL

## PRODUCT INFORMATION

Diazyme PCT Assay is a latex particle enhanced immunoturbidimetric method intended for the quantitative determination of PCT in human serum, EDTA or lithium heparin plasma. Measurement of PCT in conjunction with other laboratory findings and clinical assessments aids in the risk assessment of critically ill patients on their first day of ICU admission for progression to severe sepsis and septic shock.

Please refer to product package insert (IFU) for product use details.

## DIAZYME LABORATORIES, INC.

12889 Gregg Court, Poway, CA 92064 USA  
PO Box 85608, San Diego, CA 92186 USA  
Tel: +1-858-455-4768 +1-888-DIAZYME  
[www.diazyme.com](http://www.diazyme.com) [sales@diazyme.com](mailto:sales@diazyme.com)

## DIAZYME EUROPE GMBH

Zum Windkanal 21, 01109 Dresden, Germany  
Tel: +49-351-886-3300 Fax: +49-351-886-3366  
[sales@diazyme.de](mailto:sales@diazyme.de)

## SHANGHAI DIAZYME CO., LTD.

Building 8, 3879 Dongchuan Road  
Minhang District, Shanghai, 200245  
Tel: +86-21-54843802 Fax: +86-21-51320663  
[www.lanyuanbio.com](http://www.lanyuanbio.com) [service@lanyuanbio.com](mailto:service@lanyuanbio.com)

