



Technical Bulletin

Procalcitonin Biomarker for Serious Infections – Update #1

TO: Medical Staff and Clients

FROM: Dr. Amy Woron, PhD, MPH
V.P. - Technical Director (Microbiology & Molecular Labs)

Jantzen Lim
Manager, DLS Core Lab

Dr. Wesley Kim, MD
Medical Director

Dr. Ana Ortega-Lopez, MD
Medical Director

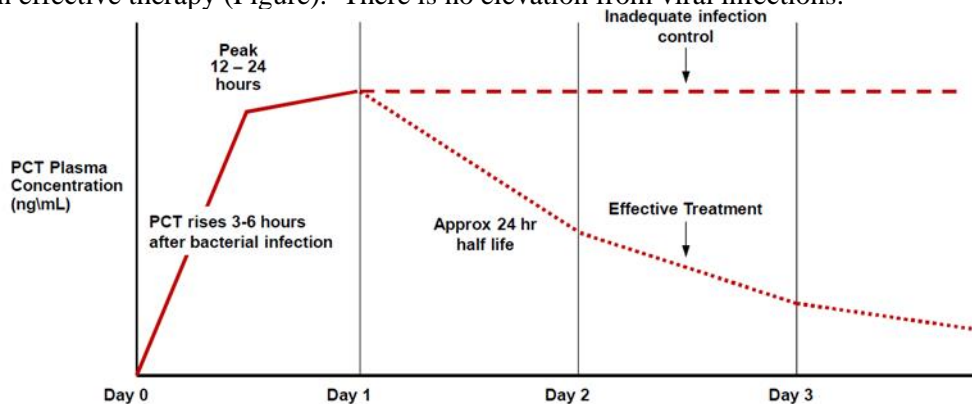
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SUBJECT: Procalcitonin serves as a biomarker for serious bacterial infections

Procalcitonin is secreted by many different cell types in response to inflammatory stimulation. An increase in the serum concentration of procalcitonin (PCT) is a good biomarker for serious bacterial infection or sepsis.

Healthy people typically have PCT concentrations below 0.1 ng/ml. A PCT concentration of 0.1-0.5 ng/mL may indicate a clinically relevant bacterial infection, but low risk for developing severe sepsis or septic shock. A PCT value of 0.5-2.0 ng/mL suggests that the patient may be at a higher risk for developing severe sepsis or septic shock. A PCT value of >2.0 ng/mL indicates high risk for developing severe sepsis or septic shock. Serial testing at 24-hour intervals is recommended.

Plasma PCT rises quickly during a serious bacterial infection and has a fairly consistent 24-hour half-life once patients are on effective therapy (Figure). There is no elevation from viral infections.



Brunkhorst FM et al., Intens. Care Med (1998) 24: 888-892
Dandona P. et al., J. of Endocrinology and Metabolism. (1994). 79: 5

PCT can be elevated for non-bacterial conditions such as newborns, polytrauma, burns, major surgery, prolonged circulatory failure, pro-inflammatory treatment (OKT3, Injection Therapy, TNF α , IL-2, anti-lymphocyte globulins), certain cancers (medullary C-cell cancers of the thyroid, pulmonary small-cell carcinoma, and bronchial carcinoma, malaria, and certain fungal infections (candidemia), renal failure (higher PCT baselines).

Test Name	Order Code	Specimen Requirement	Specimen Rejection	CPT
Procalcitonin	6008	Lithium Heparin PST (Green)	Insufficient quantity, Specimen older than stability limits, Thawed	84145

For questions, please call DLS Client Services (808-589-5101), Dr. Wesley Kim (808-589-5131), or Dr. Ana Ortega-Lopez (808-691-4470).

Diagnostic Laboratory Services Inc.
99-859 Iwaiwa Street – Aiea, HI 96701
(808) 589-5100 – www.dslslab.com