

# The Living Fossil (Horseshoe crab)

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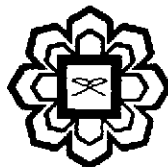
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## CHAPTER – 30

### Methods for bacterial endotoxin quantification in reference to horseshoe crab blood studies

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#### Abstract

There are number of methods has been established to determine/quantify the bacterial endotoxin level in biological samples including parenteral drugs. Due to the limitation of Rabbit Pyrogen Assay (RPA), researchers have explored the molecular mechanism of the clot formation of horseshoe crab blood and their by developed number of techniques to accurately quantify bacterial endotoxin level in various biologicals. Here we present the various techniques available to quantify the endotoxin concentration in biological samples using a compound from lysated amebocytes of horseshoe crabs.

**Key words:** liquid biologicals, horseshoe crabs, clot formation, RPA, LAL/TAL.

#### Introduction

There are three principal *Limulus* amebocyte test (LAL) methods are presently available to quantify bacterial endotoxin in biological. They are;

1. Gel-clot method
2. Turbidimetric method
  - a. Endpoint Turbidimetric method
  - b. Kinetic Turbidimetric method
3. Chromogenic substrate method
  - a. Endpoint Chromogenic method