ADA2 IS A SENSITIVE AND SPECIFIC MARKER

- Studies indicate an increase in total serum ADA seen in certain infectious diseases like that of tuberculous pleuritis is due primarily to increased ADA2 production by activated macrophages.
- ADA2 exists only in monocyte-macrophages and is the predominant isoform in tuberculous pleural effusion accounting for 88% (median) of total ADA activity.
- Studies suggest ADA1/ADA2 ratios are efficient and accurate markers in tuberculosis identification.

ANALYTICAL ADVANTAGES

- Diazyme’s ADA2 assay kit has significant advantages over the older Giusti and Galanti method.
- Fully liquid stable formulation.
- Can be run either manually or on open automated chemistry systems.

“RESEARCH STUDY CITATION: ADA2 is superior to ADA in the diagnosis of tuberculous pleuritis and should be used as a routine test in the work-up of patients with pleural effusions in areas with high TB prevalence.”

**ADENOSINE DEAMINASE 2 (ADA2) TEST KIT**

**LIQUID STABLE ASSAY**

### ADA1/ADA2 RATIOS

<table>
<thead>
<tr>
<th>ADA1</th>
<th>ADA2</th>
</tr>
</thead>
</table>
| ADA in Tuberculosis | • ADA2 is the predominant isofrom in tuberculous pleural effusion  
• ADA1/ADA2 ratios are the most efficient and accurate marker in tuberculosis diagnosis and monitoring.  
• Reporting ADA2 provides significantly higher accuracy compared to ADA1 |
| Common Catalytic Activity | • Deamination reaction from adenosine to inosine  
• As well as 2’dehydroxy adenosine to 2’dehydroxy inosine |
| Cytokine Type Activity | ADA1 and ADA2 both stimulate monocyte dependent proliferation of CD4+ T cells |
| Physiologic Role | Reduce the intracellular level of adenosine which is toxic to lymphocytes.  
ADA2 is specifically secreted by antigen presenting cells and induces differentiation of monocytes to macrophages |
| Tissue Distribution | All Cells  
Only in monocyte-macrophages |
| Structure | Simple Monomer  
Dimer with extensive glycolation |
| Site of Action | Intra-cellular  
Extra-cellular different genetic loci |

### NON-GIUSTI DIAZYME METHOD

**Method**

- Non-Giusti

**Calibration**

- Lyophilized vial or K-Factor

**Sample Type**

- Serum
- Plasma
- Lithium Heparin

**Sample Volume**

- 5 µL

**Assay Range**

- 0 to 200 U/L

**Assay Procedure**

Test Scheme for Chemistry Analyzers

- One kit of ADA activity releases three nanomoles of ammonia in the reaction in one hour at 37°C.

- Format
  - REAGENT PREPARATION
    - Reagents L1, L2 and standard are ready to use. Adenosine Reagent (L2) may form crystals at 2 - 8°C. Dissolve the same by gently warming the reagent for some time before use. Both the Phenol Reagent (L3) & Hypochlorite Reagent (L4) need to be diluted 1: 5 with distilled water before use (1 part of reagent + 4 parts of distilled water). The Working Phenol Reagent and Working Hypochlorite Reagent are stable for at least 6 months when stored at 2 - 8°C in tightly closed bottles.
  - Dual Liquid Stable Ready to use
    - • Calibrator included with the kit
    - • No reagent preparation

**Parameter questions for ADA2 assay should be addressed to Diazyme technical support. Please call 858.455.4768 or email support@diazyme.com**

**“Despite being considered efficient, this method still has limitations; it requires reagent preparation; it is performed manually; readings are taken using a spectrophotometer and all steps are performed in-house, that is, by each laboratory individually. Therefore, there is a lack of standardization and it does not allow this assay to be used as a good diagnostic test.”**


**DIAZYME LABORATORIES**
12889 Gregg Court, Poway, CA 92064
PO Box 85608, San Diego, CA 92186
Tel: 858-455-4768 888-DIAZYME
www.diazyme.com sales@diazyme.com

**DIAZYME EUROPE GMBH**
Zum Windkanal 21, 01109 Dresden, Deutschland
Tel: +49 (0) 351 886 3300  Fax +49 (0) 351 886 3366
sales@diazyme.de

**© DIAZYME 2013**