



Echelon Biosciences Inc.  
675 Arapeen Drive, Suite 302  
Salt Lake City, UT 84108  
Telephone 866-588-0455  
Fax 801-588-0497  
echelon@echelon-inc.com  
www.echelon-inc.com

## Technical Data Sheet

**For research use only**  
Not intended or approved for  
diagnostic or therapeutic use.

### Product Name: Autotaxin Activity Assay Service

**Product Number: T-4100**

#### Background:

Autotaxin is an extracellular enzyme that cleaves lysophosphatidylcholine (LPC) to generate the phospholipid growth factor lysophosphatidic acid (LPA). LPA is involved in a variety of biological functions, such as angiogenesis, wound healing, vascular and nervous system development, reproduction, pain transmission, immunological competence and the regulation of blood pressure. Altered LPA biology is associated with a number of diseases. Likewise, autotaxin has been implicated in a number of disorders, including a variety of cancers, obesity, arthritis, multiple sclerosis, Alzheimer's disease and neuropathic pain.

The Echelon autotaxin activity assay service uses the Autotaxin Activity Assay Kit (cat # K-4100) the fluorogenic autotaxin substrate FS-3. FS-3 is an LPC analogue that is conjugated with both a fluorophore (fluorescein) and a quencher. In its native state the quencher interferes with fluorescein's fluorescence. Once autotaxin cleaves FS-3, fluorescein becomes liberated from the quencher, resulting in increased fluorescence.

This assay gives a quantitative measurement of autotaxin activity in biological samples by measuring changes in fluorescence over time. Measurements are reported in ATX units. The mass of autotaxin in the sample is not given, because the same amount of autotaxin in different biological samples can have vastly different enzymatic activities due to the presence of other factors. Samples are run at 0.5 x in order to minimally dilute these factors and more accurately reflect enzymatic activity in the biological situation.

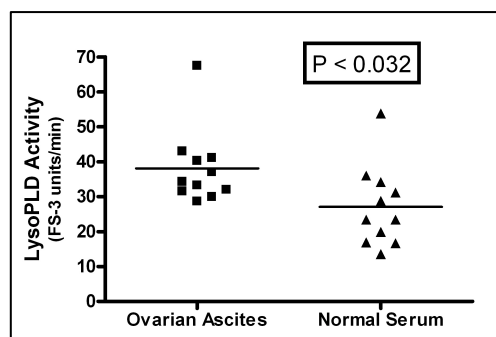
#### Sample Considerations:

The Autotaxin Activity Assay Service has been tested for the quantification of autotaxin activity in serum, plasma and cell culture media. Autotaxin is a metal dependent enzyme, avoid introducing EDTA or other metal sequestering compounds when collecting biological samples. For example, do not use EDTA tubes to collect plasma samples. EDTA will block ATX activity through metal ion depletion. When using cell culture media it is important to grow your cells under serum-free conditions, since serum contains lyso-PLD activity. If this is not possible, please provide media that has not been in contact with cells as a control. Freeze all samples before shipping and ship on dry ice if possible. Please only send undiluted samples ready for autotaxin analysis. Upon receipt all samples will be stored at -20°C. Please submit samples using the form on page 2 of this TDS. Up to 10 samples can be tested in the same assay and each sample will be run in duplicate. Please supply at least 500 µL per sample. PLEASE ENSURE ALL SHIPMENTS CONTAINING SAMPLES (INCLUDING HUMAN TISSUE OR FLUIDS) ARE APPROPRIATLY LABELED (BIOHAZARD – IF APPROPRIATE) AND PACKAGED TO PREVENT LEAKAGE DURING TRANSPORTATION TO ECHELON.

#### Assay Characteristics:

Autotaxin activity is quantified using Echelon's Autotaxin Activity Assay (cat # K-4100, see K-4100 TDS for more information).

*Figure:* Autotaxin activity was measured in normal patient serum and ovarian cancer ascites.



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TDS T-4100 Rev: 5 (11/14/14)

T-4100 Autotaxin Activity Assay Service – Please submit the following information with samples:

Customer Name: \_\_\_\_\_

<i>Sample #</i>	<i>Identification # - enter your ID here-</i>	<i>Sample Type (ie. serum, plasma, lysate)</i>
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3		
4		
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