

## Hyaluronic Acid (HA) Screening Service

**Product Number: T-1200**

### Background:

Hyaluronic acid (HA) is a high molecular weight anionic polysaccharide (1,000-10,000 kD) composed of repeating disaccharides and is one of several glycosaminoglycan components of the extracellular matrix of connective tissue.

Free HA is taken up by the liver where it is degraded and recycled. Many chronic liver diseases, including infection (hepatitis B or C), toxicity (alcohol and drugs), genetic (hemochromatosis), autoimmunity, and malignancy, result in liver inflammation which can progress to liver fibrosis and cirrhosis; causing impairment of liver function and resulting in a rapid increase in circulating HA levels.

Data indicates a relationship between HA levels, local inflammation and severity of disease. Recent publications have also shown that HA levels in urine are indicative of bladder cancer that HA levels are directly correlated to liver disease, and suggests enhanced breakdown of HA in the lungs of patients with chronic obstructive pulmonary disease. In addition, serum levels of HA have been found to be elevated in patients with rheumatoid arthritis.

### Sample considerations:

Echelon's HA ELISA can detect varying sizes of HA but it works best with HA molecules that are greater than 25 repeating units (dimers). Please ship samples on blue ice or dry ice. Upon receipt, all samples will be stored at -20°C. Please submit samples using the form on page 2 of this TDS. We strongly advise users to utilize known reference samples indicative of both normal and disease states in order to establish relevant Hyaluronic acid levels.

Sample type	Human or animal biological fluids-serum, urine, synovial fluid and cell culture supernatant
Sensitivity	25 ng/mL
Detection Range	50-1600 ng/ml
HA Molecular Weight	Can detect HA larger than 25 dimers*
Required Sample volume (for duplicate points)	300 $\mu$ l

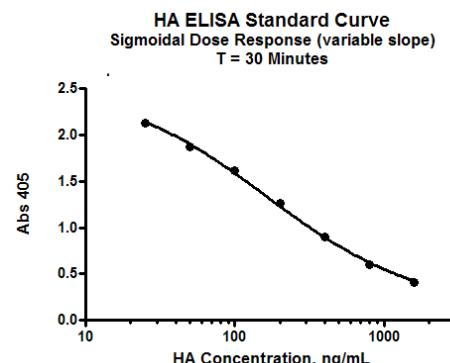
\* The HA ELISA works best with HA molecules that are greater than 25 repeating units (dimers).

### Assay Background:

The HA Screen service uses the HA-ELISA kit (K-1200). It is a quantitative enzyme-linked immunoassay designed for the in vitro measurement of HA levels in human and animal biological fluids (blood, serum, urine, diffusate, synovial fluid). Each sample will be run in duplicate.

Samples to be assayed are first mixed with the Detector and then added to the HA ELISA plate for competitive binding. An enzyme-linked antibody and colorimetric detection is used to detect the HA detector bound to the plate. The concentration of HA in the sample is determined using a standard curve of known amounts of HA. The enzyme / substrate system is a colorometric assay comprised of alkaline phosphatase / pNPP phosphatase substrate.

*Figure.* HA competitive ELISA standard curve was generated using non-linear regression analysis with GraphPad prism software. A sigmoidal dose response-variable slope curve (four-parameter) analysis was utilized.



**T-1200 HA Screening Service – Please submit the following information with samples. Email an electronic copy of this form to [echelon@echelon-inc.com](mailto:echelon@echelon-inc.com):**

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

Sample #	Name	Sample source	Sample #	Name	Sample source
1			41		
2			42		
3			43		
4			44		
5			45		
6			46		
7			47		
8			48		
9			49		
10			50		
11			51		
12			52		
13			53		
14			54		
15			55		
16			56		
17			57		
18			58		
19			59		
20			60		
21			61		
22			62		
23			63		
24			64		
25			65		
26			66		
27			67		
28			68		
29			69		
30			70		
31			71		
32			72		
33			73		
34			74		
35			75		
36			76		
37			77		
38			78		
39			79		
40			80		

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