



## Product Data Sheet

# Alkaline Phosphatase

<b>Cat #</b> ALP-03	Alkaline Phosphatase (700 Glycine U/mg protein), Calf Intestine	<b>Size:</b> 25 mg
<b>Cat#</b> ALP-04	Alkaline Phosphatase (1000 Glycine U/mg protein), Calf Intestine	<b>Size:</b> 25 mg
<b>Cat#</b> ALP-10	Alkaline Phosphatase (2600 Glycine U/mg protein), Calf Intestine	<b>Size:</b> 25 mg

### Description

Alkaline phosphatases (APs) are highly ubiquitous enzymes, present in all species from bacteria to man. In humans, APs are encoded by a multi-gene family composed of four loci; i.e., tissue-nonspecific AP, also called bone/liver/kidney AP, (Weiss et al, J. Biol. Chem., 264, 12002-12010, 1988), intestinal (Henthorn et. al., J.Biol. Chem., 263, 12020-12027, 1988). The sequence and complexity of the AP genes from other vertebrates and lower species are now being elucidated. The biological function of AP isozymes is still unknown. In vitro, the enzymes behave as phosphotransferases at neutral pH. The use of phosphate acceptor molecules ( diethanolamine, tris, 2-amino-2-methyl-1-propanol) in the buffered substrate solutions increases the reaction rates and, thus, the sensitivity of assays based on AP determinations.

ALP is commonly used as a label in immunoassays such as ELISA, and in blotting and histochemistry. Once conjugated to antibodies, antigens, or streptavidin, its low backgrounds and linear reaction rate enables increased sensitivity over extended incubation times. It can be used with a variety of substrates producing precipitated or soluble chromogens, or with chemiluminescent substrates for enhanced sensitivity.

### ALP-03

<b>Form:</b>	Liquid
<b>Buffer:</b>	6 mM Tris/HCL, 6mM Magnesium chloride, and 12 mM zinc chloride pH 7.6 in 40% glycerol
<b>Storage:</b>	Store at 2-8°C
<b>Activity:</b>	>700 U/mg (Glycine)
<b>Measured:</b>	1187 U/mg

### ALP-04

<b>Form:</b>	Liquid
<b>Buffer:</b>	6 mM Tris/HCL, 6mM Magnesium chloride, and 12 mM zinc chloride pH 7.6 in 40% glycerol
<b>Storage:</b>	Store at 2-8°C
<b>Activity:</b>	>900 U/mg protein (Glycine)
<b>Measured:</b>	982 U/mg

### ALP-10

<b>Form:</b>	Liquid
<b>Buffer:</b>	6 mM Tris/HCL, 6mM Magnesium chloride, and 12 mM zinc chloride pH 7.6 in 40% glycerol
<b>Storage:</b>	Store at 2-8°C
<b>Activity:</b>	>2600 U/mg protein (DEA)
<b>Measured:</b>	3130 U/mg

### PRODUCT SPECIFICATION-Unit Definitions

#### Glycine Units:

That amount of enzyme causing the hydrolysis of one micromole of p-Nitrophenyl phosphate per minute at pH 9.6 and 25oC (glycine buffer).

#### DEA Units :

The amount of enzyme causing the hydrolysis of one micromole of p-Nitrophenyl phosphate per minute at pH 9.8 and 37oC (diethanolamine buffer).

#### Unit Conversion:

One Glycine unit as described above is equivalent to approximately three DEA units at pH 9.8 and 37oC.

For in vitro research use only

### Related Material available for ADI

Single solution, ready to use, TMB substrates for Blotting & ELISA

Anti-Rabbit HRP conjugates; Anti-Mouse, human, rat, and Monkey IgG-HRP and subisotype specific conjugates

**Western blot recycling kit** (Use the same blot/strip to probe with multiple antibodies,

Chemiluminescence Substrates and Western blot kits (save by complete kit that includes Anti-rabbit IgG-HRP conjugate, blocking buffer, wash buffer, and Chemiluminescence Substrates for processing 15-30 std size blots).

ALP-03-04-10

231108IA