

[Print this page](#)[Close this window](#)

## Medical Encyclopedia: ALP

URL of this page: <http://www.nlm.nih.gov/medlineplus/ency/article/003470.htm>

### Alternative names

Alkaline phosphatase

### Definition

This is a blood test that measures the amount of the enzyme ALP (alkaline phosphatase).

### How the test is performed

Blood is drawn from a vein or from a capillary on the heel, finger, toe, or earlobe. The laboratory centrifuges the blood to separate the serum from the cells. The ALP test is done on the serum.

### How to prepare for the test

Fast for 6 hours.

Your health care provider may advise you to discontinue drugs that may affect the test, such as:

- antibiotics
- narcotics
- methyldopa
- propranolol
- cortisone
- allopurinol
- tricyclic antidepressants
- chlorpromazine
- oral contraceptives (birth control pills)
- anti-inflammatory analgesics
- androgens
- tranquilizers
- some antiarthritic drugs
- oral antidiabetic drugs

### Why the test is performed

Alkaline phosphatase is an enzyme found in all tissues. Tissues with particularly high concentrations of ALP include the liver, bile ducts, placenta, and bone.

Damaged or diseased tissue releases enzymes into the blood, so serum ALP measurements can be abnormal in

many conditions, including bone disease and liver disease. Serum ALP is also increased in some normal circumstances (for example, during normal bone growth) or in response to a variety of drugs.

There are multiple varieties of ALP, called isoenzymes. Different types of isoenzymes, each with different structures, are found in different tissues (for example, liver and bone ALP isoenzymes have different structures) and can be quantified separately in the laboratory. To differentiate the location of damaged or diseased tissue in the body, ALP isoenzyme testing must be done.

### Normal Values

The normal range is 44 to 147 IU/L (international units per liter).

Normal values may vary slightly from laboratory to laboratory. They also can vary with age and gender.

### What abnormal results mean

Higher-than-normal ALP levels may indicate:

- anemia
- biliary obstruction
- bone disease
- healing fracture
- hepatitis
- hyperparathyroidism
- leukemia
- liver diseases
- osteoblastic bone cancers
- osteomalacia
- Paget's disease
- rickets

Lower-than-normal ALP levels (hypophosphatasemia) may indicate:

- malnutrition
- protein deficiency

Additional conditions under which the test may be performed:

- alcoholic liver disease (hepatitis/cirrhosis)
- alcoholism
- biliary stricture
- giant cell (temporal, cranial) arteritis
- multiple endocrine neoplasia (MEN) II
- renal cell carcinoma

### Special considerations

The ALP levels vary with age and gender. It is normal for young children experiencing rapid growth and for pregnant women to have high levels of ALP.

### Update Date: 6/1/2005

Updated by: Aniket R. Sidhaye, M.D., Division of Endocrinology and Metabolism, Johns Hopkins University School of Medicine, Baltimore,

MD. Review provided by VeriMed Healthcare Network.



A.D.A.M., Inc. is accredited by URAC, also known as the American Accreditation HealthCare Commission ([www.urac.org](http://www.urac.org)). URAC's [accreditation program](#) is the first of its kind, requiring compliance with 53 standards of quality and accountability, verified by independent audit. A.D.A.M. is among the first to achieve this important distinction for online health information and services. Learn more about A.D.A.M.'s [editorial process](#). A.D.A.M. is also a founding member of Hi-Ethics ([www.hiethics.com](http://www.hiethics.com)) and subscribes to the principles of the Health on the Net Foundation ([www.hon.ch](http://www.hon.ch)).

The information provided should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed physician should be consulted for diagnosis and treatment of any and all medical conditions. Call 911 for all medical emergencies. Adam makes no representation or warranty regarding the accuracy, reliability, completeness, currentness, or timeliness of the content, text or graphics. Links to other sites are provided for information only -- they do not constitute endorsements of those other sites. Copyright 2005, A.D.A.M., Inc. Any duplication or distribution of the information contained herein is strictly prohibited.