

# Human ACP5 / TRAP Protein (His Tag)

Catalog Number: 10550-H08H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

SPENCDI; TRAP

### Protein Construction:

A DNA sequence encoding the human ACP5 (NP\_001602.1) precursor (Met 1-Pro 320) was expressed with a C-terminal polyhistidine tag.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Ala 22

### Bio Activity:

Measured by its ability to cleave a substrate, pNitrophenyl phosphate (pNPP). The specific activity is >100,000 pmol/min/µg.

### Molecular Mass:

The secreted recombinant human ACP5 comprises 310 amino acids with a predicted molecular mass of 35 kDa as estimated by SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

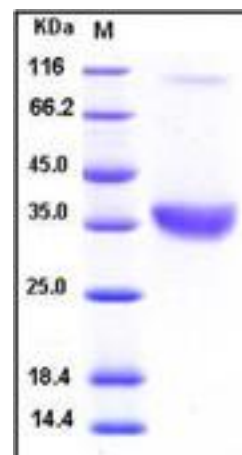
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Tartrate-resistant acid phosphatase (TRACP) or acid phosphatase 5, tartrate resistant (ACP5 or TRAP) is a glycosylated monomeric metalloenzyme expressed in mammals. TRACP is associated with osteoblast migration to bone resorption sites, and, once there, TRACP is believed to initiate osteoblast differentiation, activation, and proliferation. TRACP once considered to be just a histochemical marker of osteoclasts is now recognised to be a molecule of widespread occurrence with functions in both the skeleton and the immune system. Two forms of TRACP circulate in human blood, TRACP 5a derived from macrophages and dendritic cells, and TRACP-5b derived from osteoclasts. Recent data have demonstrated the utility of TRACP-5b as a marker of osteoclast number and bone resorption, and serum TRACP-5a as a marker of inflammatory conditions. TRACP is expressed by osteoclasts, macrophages, dendritic cells and a number of other cell types. It has a critical role in many biological processes including skeletal development, collagen synthesis and degradation, the mineralisation of bone, cytokine production by macrophages and dendritic cells, macrophage recruitment, dendritic cell maturation and a role in the development of Th1 responses.

## References

- 1.Hayman AR. (2008) Tartrate-resistant acid phosphatase (TRAP) and the osteoclast/immune cell dichotomy. *Autoimmunity*. 41(3): 218-23.
- 2.Halleen JM, *et al.* (2006) Tartrate-resistant acid phosphatase 5b (TRACP 5b) as a marker of bone resorption. *Clin Lab*. 52(9-10): 499-509.
- 3.Mochizuki Y. (2006) Bone and bone related biochemical examinations. Bone and collagen related metabolites. Tartrate-resistant acid phosphatase (TRACP). *Clin Calcium*. 16(6): 948-55.

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For US Customer: Fax: 267-657-0217 • Tel: 215-583-7898

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