ALPHA DIAGNOSTIC INTERNATIONAL

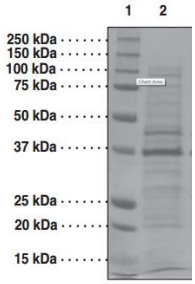
Life Technologies™ Your Molecular & Cell Technology Partner

## Product Data Sheet

**□ Cat # RP-677** **Recombinant Human Protein Tyrosine Phosphatase 1B** **Size: □ 10 ug**

Protein Tyrosine Phosphatase 1B is the founding member of the protein tyrosine phosphatase (PTP) family, which was isolated and identified based on its enzymatic activity and amino acid sequence. In humans it is encoded by the PTPN1 gene. PTP1B is a negative regulator of the insulin signaling pathway and is considered a promising potential therapeutic target, in particular for treatment of type 2 diabetes. It has also been implicated in the development of breast cancer and has been explored as a potential therapeutic target in that avenue as well.

PTP1B was first isolated from a human placental protein extract, but it is expressed in many tissues. PTP1B is localized to the cytoplasmic face of the endoplasmic reticulum. PTPs catalyze the hydrolysis of the phosphate monoesters specifically on tyrosine residues. Members of the PTP family share a highly conserved catalytic motif, which is essential for the catalytic activity. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. This PTP has been shown to act as a negative regulator of insulin signaling by dephosphorylating the phosphotryosine residues of insulin receptor kinase. This PTP was also reported to dephosphorylate epidermal growth factor receptor kinase, as well as JAK2 and TYK2 kinases, which implicated the role of this PTP in cell growth control, and cell response to interferon stimulation.




### Source of protein

Protein Tyrosine Phosphatase Non Receptor Type-1 Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 321 amino acids and having a molecular mass of 37.3 kDa.

### Form and Storage

| | |
|---|---|
| **Form:** | Sterile filtered colorless solution. |
| **Solubility:** | The protein contains 100mM Tris-HCl, pH 7.5, 1mM EDTA, 100mM NaCl and 25% Glycerol. |
| **Stability:** | Store at 4°C if entire vial will be used within 2-4 weeks.<br>Store, frozen at -20°C for longer periods of time.<br>For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).<br>Avoid multiple freeze-thaw cycles. |

The powdered AP should be stored in the freezer (−0 °C). If properly stored, these products have a shelf life of at least two years. Solutions lose <2 % of their activity per week if stored at − 20 °C.

**Activity:** 0.64 uMol/min/ml (lots specific)

**Specific Activity:** 2.03 uMole/min/mg (lots specific)

### Recommended usage

-As antigens for ELISA, western

-For affinity column preparation

Optimum concentrations for a given application must be determined by the user

For in vitro research use only

RP-677-Human-Tyrosine-phosphatase 160229SV

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com

**India Contact**:

**Life Technologies (India) Pvt. Ltd.**

**306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444**

**Email: customerservice@lifetechindia.com Website: www.lifetechindia.com**