PTP1B drug discovery kit

The PTP1B Tyrosine Phosphatase Drug Discovery Kit is a colorimetric, non-radioactive assay designed to measure the phosphatase activity of purified PTP1B. This 96-well assay is useful for screening inhibitors and modulators of PTP1B activity.The kit includes human, recombinant PTP1B (residues 1-322; MW=37.4 kDa), expressed in *E. coli*. The detection of free phosphate released is based on the classic Malachite green assay and offers the advantages of convenient, 1-step detection and excellent sensitivity, without radioactivity. PTP1B (protein tyrosine phosphatase-1B) is a ubiquitous, nontransmembrane protein tyrosine phosphatase, originally identified in human placenta.

It is implicated in the negative regulation of insulin receptor signaling, and is a potential therapeutic target for treatment of type 2 diabetes and obesity. The phosphopeptide substrate supplied with this kit ("IR5", Prod. No. BML-P315, $pTyr^{1158}$ (a.k.a. $pTyr^{1146}$, mature peptide numbering)) contains sequence from the insulin receptor β subunit domain that must be autophosphorylated to achieve full receptor kinase activation. This "activation loop" is the target of several protein phosphatase regulators of insulin signaling, including, notably, PTP1B. The PTP1B inhibitor suramin is supplied as a control for inhibitor detection. Suramin is a reversible and competitive inhibitor of PTP1B, with a K_i of 5.5 μM.

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BML-AK822-0001	96 wells

Manuals, SDS & CofA View Online »

Handling & Storage

Use/Stability Store all components except the microtiter plate at -70°C for the highest stability. The PTP1B enzyme component BML-SE332-9092 must be handled particularly carefully in order to retain maximal enzymatic activity. Thaw it quickly in a RT water bath or by rubbing between fingers, then immediately store on an ice bath. The remaining unused enzyme should be 'snap' frozen, e.g. in liquid nitrogen or a dryice/ethanol bath, and stored at -70°C. If only a few assays are to be performed each day, the PTP1B may be divided into several aliquots (best if ≥ µl)) to help minimize freeze/thaw cycles.

Long Term Storage -80°C

Shipping Dry Ice

Regulatory Status

RUO - Research Use Only

Product Details

Application Colorimetric detection, HTS

Compatibility This product is compatible with the **Absorbance 96 Plate Reader**.

Contents PTP 1B Enzyme, Substrate ("IR5" Insulin Receptor β, residues 1142-1153, pY^{1146}), Assay Buffer, Biomol Red™ Concentrated Phosphate Detection Reagent, Suramin (PTP1B inhibitor), Phosphate Standard, and Microplate (½-volume)

UniProt ID P18031

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