CREATIVE BIOMART®
Assay Kit

Protein Tyrosine Phosphatase Activity Assay Kit (Fluorometric)

Product Information

Cat

Kit-2196

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Product Overview

Protein tyrosine phosphatases (PTPase(s), EC 3.1.3.48) are a diverse family of enzymes that catalyze the removal of a phosphate moiety from protein phosphotyrosine residues. Phosphorylation and dephosphorylation of tyrosine residues is a common post-translational modification that serves as a regulatory switch for many enzymes, receptors and signal transduction pathways. PTPs can be classified as intracellular (non-receptor) or receptor-like based upon their cellular localization, however all classical PTPs share a common catalytic mechanism utilizing a nucleophilic cysteine residue. As key regulators of cellular signaling cascades, PTPs affect cell growth, differentiation, migration and metabolism. Dysfunction of certain PTPs has been linked to several human diseases. For example, the intracellular tyrosine phosphatase PTP1B is a negative regulator of the insulin signaling cascade and has also been demonstrated to be dramatically overexpressed in human breast, colon and ovarian cancers. PTPase Activity Assay Kit enables rapid measurement of PTPase activity, utilizing a fluorogenic protein phosphatase substrate that is converted into a highly fluorescent product (Ex/Em = 368/460 nm). A broad-spectrum PTPase inhibitor is provided for verification of specific activity in complex biological matrices, where serine/threonine phosphatases may contribute to substrate metabolism. Unlike ELISAs or malachite green-based approaches, the assay is homogeneous, continuous and does not require complicated sample processing or desalting to eliminate free phosphate. The assay is simple to perform, high-throughput adaptable and can detect a minimum of 0.1 mU PTPase activity.

Applications

Rapid assessment of PTPase activity in biological samples or recombinant PTPase preparations.

Storage

-20°C

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Shipping

Gel Pack

Size

100 assays

Kit Components

PTPase Assay Buffer; Disulfide Reducing Agent (DTT); Fluorescent Standard; PTPase Inhibitor (Suramin); PTPase Substrate; PTPase Positive Control

Target Species

Mammalian

Detection method Fluorescence (368/460 nm)

Features & Benefits

Simple procedure; takes less than 1 hour;
Fast and convenient;
The kit is more sensitive than colorimetric assays using phosphate detection.

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