

P4HB Inhibitor Screening Assay Kit ab139480

2 References 3 图像

概述

产品名称	P4HB抑制剂Screening Assay试剂盒
检测方法	Fluorescent
样品类型	Purified protein, Inhibitor compounds
检测类型	Enzyme activity
灵敏度	37 μM
产品概述	<p>Abcam's P4HB (PDIA1) Inhibitor Screening Assay Kit (ab139480) provides a simple, homogenous assay for screening modulators of protein disulfide isomerase (PDIA1) enzymatic activity in a 96-well microplate. The basis for the assay is the P4HB (PDIA1)-catalyzed reduction of insulin in the presence of DTT, resulting in the formation of insulin aggregates which in turnn bind to the red-emitting fluorogenic P4HB (PDIA1) Detection Reagent.</p> <p>Relative to analogous turbidimetric assays of P4HB (PDIA1) activity, the fluorescence-based assay provides a vastly improved assay signal window, improved lower detection limit and superior Z'-score (>0.8).</p> <p>The kit includes human recombinant P4HB (PDIA1) enzyme as positive control, as well as the P4HB (PDIA1) inhibitor bacitracin as a negative control.</p> <p>This kit will provide a quantitative readout of P4HB (PDIA1) enzymatic activity is a robust and HTP fashion and can be applied to identification of P4HB (PDIA1) inhibitors from chemical libraries.</p>
平台	Microplate reader

性能

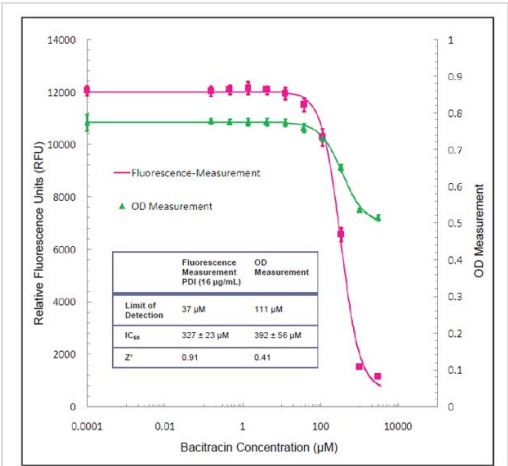
存放说明 Please refer to protocols.

组件	2 x 96 tests
Deionized Water	1 x 5ml
DTT	2 x 1.3ml

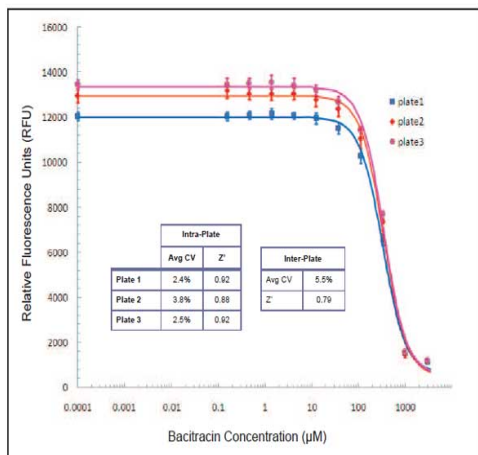
组件	2 x 96 tests
Inhibitor Control (Bacitracin)	1 vial
Insulin (from bovine pancreas)	2 vials
PBE Buffer	1 x 25ml
P4HB (PDIA1) (Human, Recombinant)	2 x 165µl
P4HB (PDIA1) Detection Reagent	1 x 20µl
Stop Reagent	1 x 1ml

功能	<p>This multifunctional protein catalyzes the formation, breakage and rearrangement of disulfide bonds. At the cell surface, seems to act as a reductase that cleaves disulfide bonds of proteins attached to the cell. May therefore cause structural modifications of exofacial proteins. Inside the cell, seems to form/rearrange disulfide bonds of nascent proteins. At high concentrations, functions as a chaperone that inhibits aggregation of misfolded proteins. At low concentrations, facilitates aggregation (anti-chaperone activity). May be involved with other chaperones in the structural modification of the TG precursor in hormone biogenesis. Also acts a structural subunit of various enzymes such as prolyl 4-hydroxylase and microsomal triacylglycerol transfer protein MTPP.</p>
序列相似性	<p>Belongs to the protein disulfide isomerase family.</p> <p>Contains 2 thioredoxin domains.</p>
细胞定位	<p>Endoplasmic reticulum lumen. Melanosome. Cell membrane. Highly abundant. In some cell types, seems to be also secreted or associated with the plasma membrane, where it undergoes constant shedding and replacement from intracellular sources (Probable). Localizes near CD4-enriched regions on lymphoid cell surfaces. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.</p>

图片

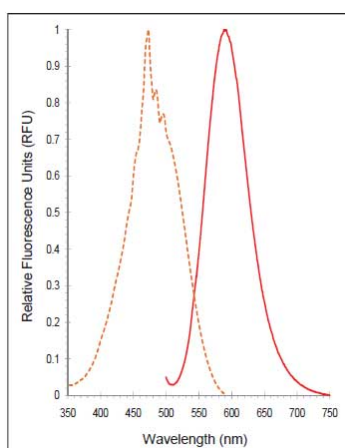


Assay validation using Inhibitor Control (bacitracin).



Intra-plate and inter-plate reproducibility using Inhibitor Control (bacitracin)

Dose response assay was performed with 0 to 3000 μM bacitracin added 15 minutes prior to the initiation of enzymatic reaction. Reactions were performed as described in Methods and Procedures section. Intra-plate and inter-plate CVs using the assay are typically 3-6%.



Absorption and fluorescence emission spectra for P4HB (PDIA1) Detection Reagent.

All spectra were determined in PBE Buffer. Example data only.

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