

Kinase RR Kit

Identification of protein kinase inhibitors from large compound libraries



- Identifies all relevant hits (inhibitors)
- Low enzyme consumption
- Rapid experimental set up
- Low cost per assay

Leader in luminescent
ATP-assays

BioThema
LUMINESCENT ASSAYS 

Kinase RR Kit

Intended use

Kinase RR Kit or Reaction Rate Kinase Assay Kit is developed for the easy and reliable identification of protein kinase inhibitor candidates from large compound libraries. The Kinase RR Kit uses direct measurement of ATP degradation rate to distinguish hits from non-hits. The Kinase RR Kit is flexible and can easily be adapted to various HTS strategies.

Applications

1. HTS assays of compound libraries for identification of protein kinase inhibitors (GPCR-protein kinases) in drug development
2. Substrate optimisation
3. IC₅₀ determination

Assay principles

Kinase RR Kit is based on a method of measuring the substrate consumption rate in the protein kinase reaction by monitoring the ATP degradation using bioluminescence. The assay starts by adding ATP to a single well of a 96- or 384-well plate containing all necessary components including luciferase and luciferin. The assay is set up so that a) the kinase reaction follows first order kinetics and b) the sample light emission, normalised against the blank (no kinase), is proportional to the remaining ATP concentration. The first order rate constant of the decay of the light emission is therefore proportional to the kinase activity over several orders of magnitude.

Instruments

It is recommended to use an automatic microplate luminometer. However, manual microplate luminometers can be used. In such case please consult BioThema AB for technical support.

Kit contents

1. Kinase RR Buffer 25 ml 2 vials
2. ATP Standard 10 ml 2 vials
3. ATP Reagent SL 1 vial (lyophilized)
4. Diluent C 7.5 ml 1 vial
5. Reagent Blank Tube (Black Microcentrifuge Tube 1.5 mL)

Assay procedure

Detailed procedures on Substrate Optimisation, Standard Curve Generation, Compound Screening and IC₅₀ Determination are found in the 'Instructions for Use' which is included with every kit.

References

Lundin, A., and Eriksson, J., Assay and Drug Development Technology

Product characteristics

No. determinations per kit (microplate) 1000
Storage conditions: + 4°C

Recommended accessories

A Kinase RR Toolbox (Microsoft Excel 2007) is available.

This includes a detailed description on luminometer set up, and instructions for data collection and analysis for the following applications:

Substrate optimisation

Standard curve

HTS Inhibitor screen

IC₅₀ Determination

Please contact BioThema for more information

Ordering info

<i>Art No</i>	<i>Description</i>
111-21	Kinase RR Kit

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