CREATIVE BIOMART®
Assay Kit

PDE4D3 Assay Kit

Product Information

Cat.No. Kit-1842

Product Overview

Phosphodiesterases (PDEs) play an important role in the dynamic regulation of cAMP and cGMP signaling. PDE4D is a regulator of airway smooth-muscle contractility, and has been identified as a potential risk predictor for ischemic stroke. Additionally, PDE4D has been associated with asthma pathophysiology and bone formation. The PDE4D gene encodes at least 9 different isoforms. Phosphodiesterases catalyze the hydrolysis of the phosphodiester bond in dye-labeled cyclic monophosphates. Beads selectively bind the phosphate group in the nucleotide product. This increases the size of the nucleotide relative to unreacted cyclic monophosphate. In the polarization assay, dye molecules with absorption transition vectors parallel to the linearly-polarized excitation light are selectively excited. Dyes attached to the rapidly-rotating cyclic monophosphates will obtain random orientations and emit light with low polarization. Dyes attached to the slowly-rotating nucleotide-bead complexes will not have time to reorient and therefore will emit highly polarized light.

Size

96 reactions

Description

The PDE4D3 Assay Kit is designed for identification of inhibitors of PDE4D3 using fluorescence polarization. The assay is based on the binding of a fluorescent nucleotide monophosphate generated by PDE4D3 to the binding agent. The key to the PDE4D3 Assay Kit is the specific binding agent. Using this kit, only two simple steps on a microtiter plate are required for PDE4D3 reactions. First, the fluorescently labeled cAMP is incubated with a sample containing PDE4D3 for 1 hour. Second, a binding agent is added to the reaction mix to produce a change in fluorescent polarization that can then be measured using a fluorescence reader equipped for the measurement of fluorescence polarization.

Applications

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PDE4D3 Assay Kit

Great for studying enzyme kinetics and screening small molecular inhibitors for drug discovery and HTS applications.

Storage

At least 6 months from date of receipt, when stored as directed. Kit components require different storage conditions. Be sure to store each component at the proper temperature upon arrival.

Kit Components

PDE4D3 recombinant enzyme: 1 µg; -80°C FAM-Cyclic-3′, 5′-AMP (20 µM): 50 µl; -80°C PDE assay buffer: 25 ml; -20°C Binding Agent: 100 µl; +4°C Binding Agent Diluent: 10 ml; +4°C Black, low binding, microtiter plate: 1; Room temp.

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