HMG-CoA Reductase Activity Assay Kit (Colorimetric) ab204701

Overview

Product name: HMG-CoA Reductase Activity Assay Kit (Colorimetric)
Detection method: Colorimetric
Sample type: Purified protein
Assay type: Enzyme activity
Assay time: 0h 10m

Product overview: HMG-CoA Reductase Activity Assay Kit (Colorimetric) (ab204701) is suitable for measuring activity of purified HMG-CoA reductase or for screening inhibitors/activators of HMG-CoA reductase. It is based on the consumption of NADPH by the enzyme, which can be measured by the decrease of absorbance at OD=340 nm. The limit of detection is below 0.05 mU.

Notes: HMG-CoA reductase (3-hydroxy-3-methyl-glutaryl-CoA reductase or HMGR) (EC 1.1.1.34) is the rate-controlling enzyme of the mevalonate pathway, the metabolic pathway that produces cholesterol from acetyl-CoA. In an NADPH-dependent reaction, HMG-CoA reductase reduces HMG-CoA to generate mevalonate and CoA. The enzyme is target of a group of cholesterol-lowering drugs known as statins. Inhibition of HMG-CoA reductase induces expression of LDL receptors in the liver, which lowers plasma concentration of cholesterol.

Platform: Microplate reader

Properties

Storage instructions: Store at -20°C. Please refer to protocols.

Components | 100 tests
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HMG-CoA | 1 vial
HMG-CoA Reductase | 1 vial
HMG-CoA Reductase Assay Buffer | 1 x 20ml
Inhibitor (Atorvastatin, 10 mM) | 1 x 10µl
NADPH | 1 vial
Function
This transmembrane glycoprotein is involved in the control of cholesterol biosynthesis. It is the rate-limiting enzyme of sterol biosynthesis.

Pathway
Metabolic intermediate biosynthesis; (R)-mevalonate biosynthesis; (R)-mevalonate from acetyl-CoA: step 3/3.

Sequence similarities
Belongs to the HMG-CoA reductase family.

Cellular localization
Endoplasmic reticulum membrane. Peroxisome membrane.

Images

Activity of HMG-CoA Reductase (positive control included in the kit) compared to the background control with no enzyme.

Comparison of HMG-CoA Reductase activity in absence or presence of specific inhibitors such as atorvastatin (100 µM) and pravastatin (10 ng/µl); ND: Not Detectable.

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