



Farnesyltransferase Activity Assay Kit (BA0241)

Product Datasheet | SKU BA0241

Description

A fluorimetric high-throughput kit for the quantitative determination of farnesyltransferase (FTase) enzyme activity in biological samples and purified enzyme. FTase reacts with farnesyl pyrophosphate and a dansyl-peptide substrate to release a fluorescent product measured at $\lambda_{em}/\lambda_{ex}$ = 340/550 nm, with a linear detection range of 0.024 - 3.2 U/L in a 384-well plate.

Specifications

Detection Method	Fluorimetric (FL340/550 nm)
Detection Range	0.024 - 3.2 U/L FTase (384-well plate)
Sample Type	Biological samples, Purified enzyme
Species Reactivity	All
Assay Time	60 min
Kit Size	400 Assays
Equipment Required	Microplate reader
Storage	-20°C
Shelf Life	6 months
Shipping	Gel Pack

Kit Components

Component	Quantity	Storage
Assay Buffer	12 mL	-20°C
Substrate	200 μ L	-20°C
180 mM TCEP	400 μ L	-20°C

Ordering Information

Assay Genie Cat. No.	Pack Size
BA0241	400 Assays

Assay Procedure

Note: This is a sample protocol. Protocols are batch/lot specific - always follow the instructions supplied with your kit.

1. Prior to assay, equilibrate all components to room temperature and briefly centrifuge tubes before opening. Use black flat-bottom 384-well plates and prepare Working Reagent fresh for each run. Prepare enzyme in buffer and use fresh; experimentally determine the optimal amount of enzyme per well (FTase enzyme is not included).
2. Transfer 5 μ L of the samples to separate wells.
3. Prepare enough Working Reagent for all sample wells by mixing, per well, 0.5 μ L Substrate, 30 μ L Assay Buffer and 1 μ L TCEP. Add 25 μ L Working Reagent to all sample wells and immediately tap the plate to mix.
4. Read fluorescence intensity at time zero and at 60 min at $\lambda_{ex}/\lambda_{em}$ = 340/550 nm, or read fluorescence kinetically for 60 minutes.

Calculation

FTase Activity = (Reaction Vol / Sample Vol) $\times$ [(F60 - F0) / ((4.3 $\cdot$ F0 - F0)/[Substrate] $\cdot$ t)] $\times$ n = (Reaction Vol / Sample Vol) $\times$ [(F60 - F0)/F0] $\times$ 0.303 $\times$ n (U/L), where F60 and F0 are the fluorescence intensities at 60 and 0

min; [Substrate], Reaction Vol and Sample Vol are 10 μ M, 30 μ L and 5 μ L respectively; t is the reaction time (60 min); 4.3 is the conversion factor for maximum sample fluorescence at 6 hours; and n is the sample dilution factor. Unit definition: one unit of FTase catalyses the transfer of 1 μ mole of the farnesyl group per minute under the assay conditions.

Notes

- This assay is based on an enzyme-catalysed kinetic reaction. To ensure identical incubation time, addition of Working Reagent should be quick and mixing brief but thorough; use of a multi-channel pipettor is recommended.
- The FTase enzyme is not included in the kit; the purpose of the assay is to determine the FTase activity of the sample.
- No standard or calibrator is included; a conversion factor of 4.3 is provided for determining maximum sample fluorescence.
- Reagents are for research use only. Refer to the MSDS for detailed safety information.

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Technical specifications are based on manufacturer documentation and may be updated. Protocols shown are summaries - always follow the instructions supplied with your kit/lot.