CREATIVE BIOMART®
Assay Kit

Indoleamine 2,3-Dioxygenase 1 Activity Assay Kit

Product Information

Cat

Kit-2211

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Product Overview

Indoleamine 2,3-Dioxygenase 1 (IDO1, EC 1.13.11.52) is a cytoplasmic hemoprotein that oxidizes tryptophan yielding N-formylkynurenine (NFK). In mammals, this reaction is the first and rate limiting step in the kynurenine catabolic pathway. IDO1 activity is low under normal physiological conditions, but is dramatically upregulated by proinflammatory cytokines such as interferon-γ. This short-term activation of IDO1 occurs as part of the innate immune response and helps to inhibit the growth of pathogens and parasites. IDO1 activation can also promote host immune tolerance by exerting an immunosuppressive effect. IDO1 expression by tumor cells plays a substantial role in tumor immune tolerance, aiding tumors in evading detection and destruction. Chronic induction of IDO1 expression has been found in cancer patients increased IDO1 activity is correlated with negative prognosis. IDO1 has thus become an attractive pharmacological target for development of novel antineoplastics and adjuvants to increase the efficacy of conventional chemotherapy. IDO1 Activity Assay Kit enables IDO1 activity to be easily determined in mammalian tissues and cell lines. The assay uses a fluorogenic developer that selectively reacts with NFK to produce a highly fluorescent product (Ex/Em = 402/488 nm), ensuring a high signal-to-background ratio. The kit also includes a highly selective IDO1 inhibitor for verification of enzyme activity in biological matrices. The assay has a simple no-wash protocol, is high-throughput adaptable and can detect down to 0.2 mU of IDO1 activity or 200 pmole NFK.

Applications

Rapid assessment of native/recombinant IDO1 activity in lysates prepared from tissues, cells. Screening of drugs and novel ligands for interaction with native/recombinant IDO1.

Storage

-20°C

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Shipping

Gel Pack

Size

100 assays

Kit Components

IDO1 Assay Buffer; Antioxidant Mix (100X); N-formylkynurenine Standard; IDO1 Substrate (L-tryptophan); IDO Inhibitor (IDO5L); Fluorogenic Developer Solution; Recombinant Human IDO1; Microplate Sealing Film

Target Species

Mammalian

Detection method Fluorescence(Ex/Em 402/488 nm)

Features & Benefits

Simple, convenient, highly sensitive;
Fluorescent assay enables easy determination of IDO1 activity in a variety of biological samples;
The substrate shows low background and a high signal-to-noise ratio;
Kit includes IDO1 inhibitor, IDO5L, and a stable, recombinant human IDO1 enzyme as a positive control

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