CREATIVE BIOMART®
Assay Kit

Indoleamine 2,3-Dioxygenase 1 (IDO1) Inhibitor Screening Kit

Product Information

Cat

Kit-2388

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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 patients with many different types of cancer and increased IDO1 activity is correlated with more extensive disease spread and worsening prognosis. IDO1 has thus become an attractive pharmacological target for development of novel antineoplastics and adjuvants to increase the efficacy of conventional chemotherapy. IDO1 Inhibitor Screening Kit enables rapid screening of test compounds for modulation of IDO1 activity. Unlike conventional colorimetric IDO1 assays based upon UV absorbance, the assay uses a fluorogenic developer that selectively reacts with NFK to produce a highly fluorescent product detectable in the visible range (Ex/Em = 402/488 nm). This ensures a high signal-to-background ratio and little interference due to short wavelength absorbance by test compounds. The assay is highly sensitive, has a simple no-wash protocol and is high-throughput adaptable. The kit contains a complete set of reagents sufficient for performing 100 reactions in a 96-well plate format.

Applications

Rapid, high-throughput screening of drugs and novel ligands.
Development of structure-activity relationship (SAR) models to predict IDO1 inhibition liability of novel compounds.

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Assay Kit

Indoleamine 2,3-Dioxygenase 1 (IDO1) Inhibitor Screening Kit

Storage
-20°C
Shipping
Gel Pack
Size
100 assays
Kit Components
IDO1 Assay Buffer; Antioxidant Mix (100X); 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, highly sensitive, high-throughput compatible; Rapid screening of IDO1 inhibitors or ligands; Kit includes the IDO1 inhibitor IDO5L and a stable, recombinant human IDO1 Enzyme

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