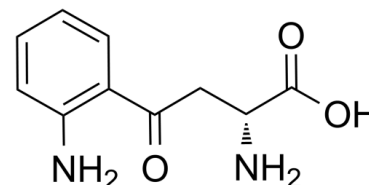


Data Sheet

Product Name:	D-Kynurenine
Cat. No.:	CS-W015218
CAS No.:	13441-51-5
Molecular Formula:	C ₁₀ H ₁₂ N ₂ O ₃
Molecular Weight:	208.21
Target:	Aryl Hydrocarbon Receptor; Endogenous Metabolite
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease
Solubility:	H ₂ O : 5 mg/mL (24.01 mM; ultrasonic and warming and heat to 60°C)



BIOLOGICAL ACTIVITY:

D-kynurenine, a metabolite of D-tryptophan, can serve as the bioprecursor of kynurenic acid (KYNA) and 3-hydroxykynurenine. D-Kynurenine is an agonist for G protein-coupled receptor, **GPR109B**. D-Kynurenine is a substrate in a fluorometric assay of D-amino acid oxidase. D-kynurenine promotes epithelial-to-mesenchymal transition via activating **aryl hydrocarbon receptor (AHR)**^{[1][2][3][4]}.

In Vitro: D-kynurenine (10, 40, 60, and 100 μM) positively regulates the metastasis of 95D cells, a lung cancer cell line, which is reduced upon siRNA^{Ahr} treatment. Significant enhancement VIM expression was detected in the presence of D-kynurenine (10 and 40 μM). 10 μM D-kynurenine markedly attenuates E-cadherin level. 10 μM D-kynurenine-mediated changes of VIM and E-cadherin are substantially attenuated on siRNA^{Ahr} treatment as well. The evidences-10/40 μM D-kynurenine-induced up-regulation of CYP1A1, 10 μM D-kynurenine-induced increase of nuclear transfer of Ahr, and 10/40/60/100 μM D-kynurenine-induced enhancement of DER-luciferase activity-indicated that D-kynurenine is capable of activating Ahr in fact^[4].

References:

- [1]. Wang XD, et al. A method for the determination of D-kynurenine in biological tissues. *Anal Bioanal Chem.* 2013 Dec;405(30):9747-54.
- [2]. Irukayama-Tomobe Y, et al. Aromatic D-amino acids act as chemoattractant factors for human leukocytes through a G protein-coupled receptor, GPR109B. *Proc Natl Acad Sci U S A.* 2009 Mar 10;106(10):3930-4.
- [3]. Kozaki A, et al. Fluorimetric assay for D-amino acid oxidase activity in rat brain homogenate by using D-kynurenine as a substrate. *Biosci Trends.* 2012 Oct;6(5):241-7.
- [4]. Duan Z, et al. Promoting epithelial-to-mesenchymal transition by D-kynurenine via activating aryl hydrocarbon receptor. *Mol Cell Biochem.* 2018 Nov;448(1-2):165-173.

CAIndexNames:

Benzenebutanoic acid, α,2-diamino-γ-oxo-, (αR)-

SMILES:

O=C(C(C=CC=C1)=C1N)C[C@@H](N)C(O)=O

Caution: Product has not been fully validated for medical applications. For research use only.

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