

## Oxindole

## Chemical Properties

CAS No.:	59-48-3
Formula:	C <sub>8</sub> H <sub>7</sub> NO
Molecular Weight:	133.2
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

## Biological Description

Description	Oxindole is an aromatic heterocyclic building block. 2-indolinone derivatives have become lead compounds in the research of kinase inhibitors. Oxindole structure has been used in receptor tyrosine kinases (RTKs) inhibitors such as SU4984 and intedanib, the RTK family represents an important therapeutic target for anti-cancer drug development.
Targets(IC <sub>50</sub> )	Others: None
In vitro	We synthesized a series of novel 5-24 derivatives of Oxindole. METHODS AND RESULTS: The synthesis started from 5-chloroOxindole, which was condensed with methyl 4-carboxybenzoate and result in the formation of benzolyester derivatives of Oxindole which was then treated with hydrazine hydrate. The Oxindole benzoylhydrazide was treated with aryl acetophenones and aldehydes to get target compounds 5-24. The synthesized compounds were evaluated for urease inhibition; the compound 5 (IC <sub>50</sub> = 13.00 ± 0.35 µM) and 11 (IC <sub>50</sub> = 19.20 ± 0.50 µM) showed potent activity as compared to the standard drug thiourea (IC <sub>50</sub> = 21.00 ± 0.01 µM). Other compounds showed moderate to weak activity. CONCLUSIONS: All synthetic compounds were characterized by different spectroscopic techniques including (1)H NMR, (13)C NMR, IR and EI MS. The molecular interactions of the active compounds within the binding site of urease enzyme were studied through molecular docking simulations.

## Solubility Information

Solubility	DMSO: 97 mg/mL (728.23 mM) ( < 1 mg/ml refers to the product slightly soluble or insoluble)
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	7.508 mL	37.538 mL	75.075 mL
5 mM	1.502 mL	7.508 mL	15.015 mL
10 mM	0.751 mL	3.754 mL	7.508 mL
50 mM	0.15 mL	0.751 mL	1.502 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Synthesis of novel derivatives of oxindole, their urease inhibition and molecular docking studies. Bioorg Med Chem Lett. 2015 Aug 15;25(16):3285-9.

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