RK-33

DDX3 inhibitor

RK-33 is a first-in-class small molecule inhibitor of DDX3 (an RNA helicase), with an IC50 value ranging from 4.4 to 8.4 μM for cancer cell lines with high levels of DDX3 expression. This compound is primarily used in cancer research due to its ability to inhibit DDX3 activity, leading to cell cycle arrest, apoptosis, and enhanced radiation sensitivity.

Key features and applications include:

- **Selective Inhibition:** Specifically targets DDX3, disrupting its helicase activity and impairing Wnt signaling.
- **Induces Apoptosis:** Promotes programmed cell death in DDX3-overexpressing cancer cells.
- **Radiation Sensitizer:** Enhances the efficacy of radiation therapy in cancer treatment.
- **Combination Therapy:** Explored in combination with radiation therapy to improve treatment outcomes.
- **Metastasis Studies:** Investigates the role of DDX3 in cancer metastasis and its potential as a therapeutic target.

Relevant disease states include:

- **Lung Cancer:** Demonstrates significant anti-cancer activity and radiosensitization in lung cancer cell lines.
- **Breast Cancer:** Effective in reducing breast cancer bone metastasis and preventing further cancer spread.
- **Colorectal Cancer:** Inhibits the growth and proliferation of colorectal cancer cells.

RK-33 is a valuable tool in oncology research, offering insights into the mechanisms of cancer progression and potential therapeutic strategies for various cancers.

Ordering Information

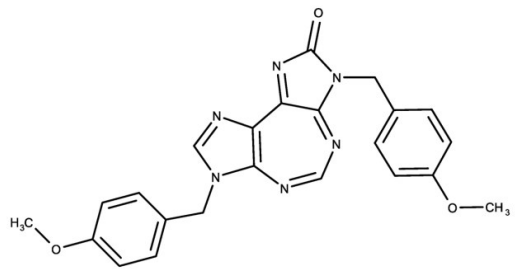
Order Online »

ENZ-CHM355-0025	25mg

- GMP format available

Manuals, SDS & CofA

View Online »


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H3C
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CH3

Handling & Storage

Use/Stability	As indicated on product label or CoA when stored as recommended. Solutions in DMSO may be stored at -20° for up to 1 month.
Handling	Keep container tightly closed in a cool, dry, well-ventilated place.
Short Term Storage	-20°C
Long Term Storage	-20°C
Shipping	Ambient Temperature

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	3,7-Bis(4-methoxybenzyl)-3,7-dihydro-1,3,4,6,7,9-hexaza-2H-cyclopenta[e]azulene-2-one
Appearance	Yellow solid.
CAS	1070773-09-9
Couple Target	DDX3
Couple Type	Inhibitor
Formula	$C_{23}H_{20}N_6O_3$
Identity	Determined by NMR.
MW	428.44
Purity	≥98% (HPLC)
Solubility	Soluble in DMSO (up to 20 mg/ml).

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