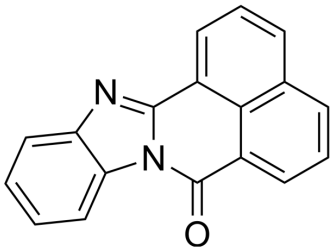
AHR agonist 3

Cat. No.:	HY-W338764
CAS No.:	23749-58-8
Molecular Formula:	$C_{18}H_{10}N_2O$
Molecular Weight:	270.28
Target:	Apoptosis; Aryl Hydrocarbon Receptor
Pathway:	Apoptosis; Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

AHR agonist 3 is an aryl hydrocarbon receptor (AhR) agonist, that can induces cell cycle arrest or apoptosis via activation of tumor-suppressive transcriptional programs. AHR agonist 3 inhibits triple-negative breast cancer (TNBC) stem cell growth via AhR while exhibits minimal cytotoxicity against normal human primary cells and can be used for cancer research[1].

In Vitro

AHR agonist 3 (Analog 523) (10 nM; 24 hour or 2-3 weeks) induces cell cycle arrest and inhibits clonogenicity in AhR WT and AhR KO MDA-MB-468 cells [1].

AHR agonist 3 (0-10 μM; 48-72 hours) drives AhR-dependent apoptosis and growth inhibition in breast cancerous cells, but not normal breast epithelial cells or on-tumorigenic cells and inhibits TNBC stem cell growth via AhR.[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	AhR WT and AhR KO MDA-MB-468 cells
Concentration:	10 nM
Incubation Time:	24 hours or 2−3 weeks
Result:	Induced an AhR-dependent S+G2/M phase arrest for Short-term (24 h) treatment. Completely exhibited the clonogenicity of AhR expressing cells while exhibiting a minimal impact on AhR deficient cells.

Apoptosis Analysis[1]

Cell Line:	MDA-MB-468 cells, MCF10A, HEK293T and normal primary human fibroblast
Concentration:	0-10 μM
Incubation Time:	48-72 hours
Result:	Human mammary epithelial cells (HMECs), nonmalignant mammary epithelial line Induced AhR-dependent apoptosis and growth inhibition in cancerous but not normal cells. Inhibited TNBC stem cell growth via AhR.

REFERENCES

[1]. Elson DJ, et.al. Induction of Aryl Hydrocarbon Receptor-Mediated Cancer Cell-Selective Apoptosis in Triple-Negative Breast Cancer Cells by a High-Affinity Benzimidazoisoquinoline. ACS Pharmacol Transl Sci. 2023 Jun 7;6(7):1028-1042.

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