

FOXO4-DRI

Cat. No.:	HY-P4157	
CAS No.:	2460055-10-9	
Molecular Formula:	$C_{228}H_{388}N_{86}O_{64}$	D-(Leu-Thr-Leu-Arg-Lys-Glu-Pro-Ala-Ser-Glu-Ile-Ala-Gln-Ser-Ile-Leu-Glu-Ala-Tyr-Ser-Gly-Ser-Gly-Gly-Lys-Arg-Pro-Pro-Pro-Arg-Ser-Gly-Gly-Lys-Arg-Pro-Pro-Pro-Arg-Arg-Arg-Gln-Arg-Arg-Lys-Lys-Arg-Gly)
Molecular Weight:	5358.06	
Sequence:	D-(Leu-Thr-Leu-Arg-Lys-Glu-Pro-Ala-Ser-Glu-Ile-Ala-Gln-Ser-Ile-Leu-Glu-Ala-Tyr-Ser-Gly-Ser-Gly-Gly-Lys-Arg-Pro-Pro-Pro-Arg-Ser-Gly-Gly-Lys-Arg-Pro-Pro-Pro-Arg-Arg-Arg-Gln-Arg-Arg-Lys-Lys-Arg-Gly)	
Sequence Shortening:	D-(LTLRKEPASEIAQSILEAYSQNGWANRRSGGKRPPRRRQRKKRG)	
Target:	MDM-2/p53; Apoptosis	
Pathway:	Apoptosis	
Storage:	Sealed storage, away from moisture	
	Powder -80°C 2 years	
	-20°C 1 year	
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)	

SOLVENT & SOLUBILITY

In Vitro

H₂O : 100 mg/mL (18.66 mM; Need ultrasonic)
 DMSO : 50 mg/mL (9.33 mM; Need ultrasonic)

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	0.1866 mL	0.9332 mL	1.8663 mL
	5 mM	0.0373 mL	0.1866 mL	0.3733 mL
	10 mM	0.0187 mL	0.0933 mL	0.1866 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

FOXO4-DRI is a cell-permeable peptide antagonist that blocks the interaction of FOXO4 and p53. FOXO4-DRI is a senolytic peptide that induces apoptosis of senescent cells^[1].

In Vitro

FOXO4-DRI (25 mM; 3 days) causes nuclear exclusion of active p53 and induces apoptosis in senescent TM3 Leydig cells^[1]. FOXO4-DRI (25 μM; 5 days) significantly reduces the senescence level in PDL9 cells^[2].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.
 Cell Viability Assay^[1]

Cell Line:	Senescent Leydig cells
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Concentration:	25 mM
Incubation Time:	3 days
Result:	Reduced the viability of senescent as compared to normal TM3 Leydig cells.

Apoptosis Analysis^[1]

Cell Line:	Senescent Leydig cells
Concentration:	25 mM
Incubation Time:	3 days
Result:	The apoptosis rate increased from 10% to 27%.

Western Blot Analysis^[2]

Cell Line:	PDL9 cells
Concentration:	25 μ M
Incubation Time:	5 days
Result:	Decreased the protein levels of representative senescent markers, including p16, p21, and p53.

RT-PCR^[2]

Cell Line:	PDL9 cells
Concentration:	25 μ M
Incubation Time:	5 days
Result:	Enhanced SOX9 expression, and reduced MMP12 and MMP13 expression.

In Vivo

FOXO4-DRI (5 mg/kg; i.p.; every other day for three administrations) alleviates testosterone secretion insufficiency and improves the testicular microenvironment in naturally aged mice^[1].

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

Animal Model:	Naturally aged male C57BL/6 mice (20-24 months old) ^[1]
Dosage:	5 mg/kg
Administration:	Intraperitoneal injection, every other day for three administrations
Result:	Increased serum testosterone levels. Increased levels of both 3 β -HSD and CYP11A1. Decreased interstitial SA- β -gal activity and lowered levels of senescence-associated proteins p53, p21, and p16. Decreased the levels of IL-1 β , IL-6 and TGF- β .

REFERENCES

[1]. Zhang C, et al. FOXO4-DRI alleviates age-related testosterone secretion insufficiency by targeting senescent Leydig cells in aged mice. *Aging (Albany NY)*. 2020 Jan 20;12(2):1272-1284.

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

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