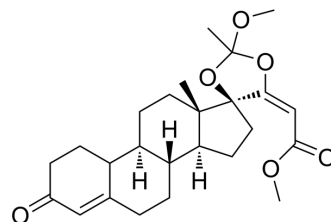


## YK11

<b>Cat. No.:</b>	HY-107480		
<b>CAS No.:</b>	1370003-76-1		
<b>Molecular Formula:</b>	C <sub>25</sub> H <sub>34</sub> O <sub>6</sub>		
<b>Molecular Weight:</b>	430.53		
<b>Target:</b>	Androgen Receptor		
<b>Pathway:</b>	Vitamin D Related/Nuclear Receptor		
<b>Storage:</b>	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 20 mg/mL (46.45 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		2.3227 mL	11.6136 mL	23.2272 mL
		<b>5 mM</b>		0.4645 mL	2.3227 mL	4.6454 mL
<b>10 mM</b>		0.2323 mL	1.1614 mL	2.3227 mL		
Please refer to the solubility information to select the appropriate solvent.						
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (5.81 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.81 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (5.81 mM); Clear solution					

### BIOLOGICAL ACTIVITY

<b>Description</b>	YK11 is a partial agonist of androgen receptor, with osteogenic activity.
<b>IC<sub>50</sub> &amp; Target</b>	Androgen receptor <sup>[1]</sup>
<b>In Vitro</b>	YK11 is a partial agonist of androgen receptor, and induces myogenic differentiation of C2C12 Cells at 500 nM via Fst mRNA upregulation by AR. YK11 enhances Myf5 and myogenin mRNA expression, but requires high concentrations (YK11, 100 nM or 500 nM) <sup>[1]</sup> . YK11 (0.5 μM) increases the cell growth of osteoblastic MC3T3-E1 cells, and enhances ALP activity via AR. YK11 also elevates osteoprotegerin mRNA expression (0.5 μM) and dose-dependently increases osteocalcin mRNA expression (0.1-

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1.0  $\mu$ M). In addition, YK11 enhances phosphorylation of Akt protein via rapid non-genomic signaling<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## PROTOCOL

### Cell Assay <sup>[1]</sup>

Mouse myoblast C2C12 cells are cultured in Dulbecco's modified Eagle's medium (DMEM) supplemented with 10% fetal bovine serum (FBS) at 37°C in a humidified atmosphere with 5% CO<sub>2</sub>. C2C12 cells are seeded on plates and maintained in culture medium for 24 h. To induce myogenic differentiation, YK11 or DHT in DMEM supplemented with 2% horse serum (differentiation medium) is added to the cells on day 0. For the neutralization assay of Fst (also known as activin-binding protein), C2C12 cells are maintained in differentiation medium in the presence of anti-Fst antibody<sup>[1]</sup>.

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

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## REFERENCES

[1]. Kanno Y, et al. Selective androgen receptor modulator, YK11, regulates myogenic differentiation of C2C12 myoblasts by follistatin expression. *Biol Pharm Bull.* 2013;36(9):1460-5.

[2]. Yatsu T, et al. Selective Androgen Receptor Modulator, YK11, Up-Regulates Osteoblastic Proliferation and Differentiation in MC3T3-E1 Cells. *Biol Pharm Bull.* 2018;41(3):394-398.

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

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