Product data sheet



MedKoo Cat#: 526643				
Name: OAC2				
CAS#: 6019-39-2				
Chemical Formula: $C_{15}H_{12}N_2O$				
Exact Mass: 236.095				
Molecular Weight: 236.27				
Product supplied as:	Powder			
Purity (by HPLC):	≥ 98%			
Shipping conditions	Ambient temperature			
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.			
	In solvent: -80°C 3 months; -20°C 2 weeks.			



1. Product description:

OAC2 is an Oct4-activating compound which activates expression through the Oct4 gene promoter. Octamer-binding transcription factor 4 (Oct4) is a transcription factor which, with Sox2, Klf4, and c-Myc, is involved in the reprogramming of somatic cells to produce pluripotent stem cells.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	10.0	42.30

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.23 mL	21.16 mL	42.32 mL
5 mM	0.85 mL	4.23 mL	8.46 mL
10 mM	0.42 mL	2.12 mL	4.23 mL
50 mM	0.08 mL	0.42 mL	0.85 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Mathis R, Van Gijsegem F, De Rycke R, D'Haeze W, Van Maelsaeke E, Anthonio E, Van Montagu M, Holsters M, Vereecke D. Lipopolysaccharides as a communication signal for progression of legume endosymbiosis. Proc Natl Acad Sci U S A. 2005 Feb 15;102(7):2655-60. doi: 10.1073/pnas.0409816102. Epub 2005 Feb 7. PMID: 15699329; PMCID: PMC549025.

2. Wakao S, Siarot L, Aono T, Oyaizu H. Effects of alteration in LPS structure in Azorhizobium caulinodans on nodule development. J Gen Appl Microbiol. 2015;61(6):248-54. doi: 10.2323/jgam.61.248. PMID: 26782655. In vivo study

TBD

7. Bioactivity

Biological target:

OAC2 is an Oct4-activating compound which activates expression through the Oct4 gene promoter.

Product data sheet



In vitro activity

To localize ORS571-oac2 upon coinoculation and to evaluate its nitrogen-fixing potential, plasmids pXLGD4 (carrying a constitutively expressed lacZ gene) (21) and pRS2002 (carrying a nifH-lacZ fusion) (22) were introduced into ORS571-oac2 by triparental mating with pRK2073 (23) as helper plasmid. Mature wild-type nodules on S. rostrata typically retain a globular shape (Fig. 6 A and B, which is published as supporting information on the PNAS web site), whereas ORS571-oac2-induced nodules continued to develop primordia, resulting in large multilobed structures (Fig. 1A). ORS571-oac2-induced nodules at 60 dpi had multiple blue spots on the surface (Fig. 1 A) that corresponded with colonization of the outermost cortical cells and a limited deeper tissue invasion (Fig. 1B). Upon nodule induction with a GUS-marked ORS571-oac2 (Fig. 2D), plant cells of the infection zone had cyan blue precipitates in the cytoplasm (Fig. 2E). TEM confirmed the presence of bacteria in plant cells that, atypically, still contained several vacuoles (Fig. 2F). Based on these observations, we hypothesize that, in the ORS571-oac2–S. rostrata interaction, the absence of a bacterial signal fails to trigger progression of the symbiotic program of the host.

Reference: Proc Natl Acad Sci U S A. 2005 Feb 15; 102(7): 2655–2660. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC549025/

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.