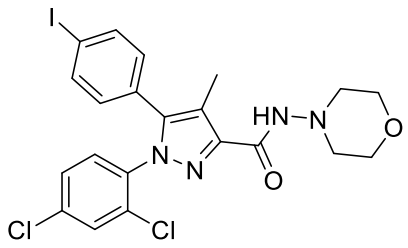
Product data sheet

MedKoo Cat#: 531444 Name: AM281 CAS#: 202463-68-1 Chemical Formula: $C_{21}H_{19}Cl_2IN_4O_2$ Exact Mass: 555.993 Molecular Weight: 557.2135	
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:
AM281 is a synthetic cannabinoid CB1 receptor antagonist.

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	21.40	38.41
DMF	1.0	1.79
DMF:PBS (pH 7.2) (1:5)	0.2	0.36

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	1.79 mL	8.97 mL	17.95 mL
5 mM	0.36 mL	1.79 mL	3.59 mL
10 mM	0.18 mL	0.90 mL	1.79 mL
50 mM	0.04 mL	0.18 mL	0.36 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

TBD

In vivo study

1. Bialuk I, Winnicka MM. Facilitatory effect of AM281 on recognition memory in rats. Pharmacol Rep. 2016 Apr;68(2):301-9. doi: 10.1016/j.pharep.2015.09.008. Epub 2015 Oct 9. PMID: 26922532.
2. Botanas CJ, de la Peña JB, Dela Pena IJ, Tampus R, Kim HJ, Yoon SS, Seo JW, Jeong EJ, Cheong JH. Evaluation of the abuse potential of AM281, a new synthetic cannabinoid CB1 receptor antagonist. Eur J Pharmacol. 2015 Nov 5;766:135-41. doi: 10.1016/j.ejphar.2015.10.004. Epub 2015 Oct 9. PMID: 26450088.

7. Bioactivity
Biological target:

AM281 is a selective CB1 receptor antagonist with an IC50 of 9.91 nM. AM281 inhibits CB2 receptor with an IC50 of 13000 nM.42.

In vitro activity

TBD

Product data sheet

In vivo activity

Fig. 3A shows the time spent in the non-preferred area during the pre- and post-conditioning phases of the CPP. The CPP scores of rats treated with AM281 for 7 or 14 days prior to the start of the CPP are presented in Fig. 3B. Two-way ANOVA showed a significant effect in treatments [$F(1, 24)=16.25$, $P<0.001$], but not in pretreatment days or treatments×pretreatment days interaction. Bonferroni's posttest revealed that rats pretreated with AM281 for 14 days showed significant CPP towards the drug ($P<0.01$).

Reference: Eur J Pharmacol. 2015 Nov 5;766:135-41. https://pubmed.ncbi.nlm.nih.gov/26450088/