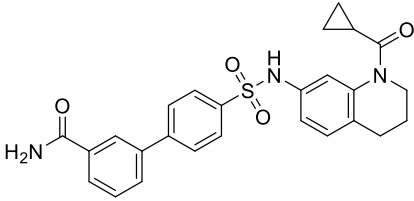


# Product data sheet



MedKoo Cat#: 463689 Name: SU0268 CAS#: 2210228-45-6 Chemical Formula: C <sub>26</sub> H <sub>25</sub> N <sub>3</sub> O <sub>4</sub> S Exact Mass: 475.1566 Molecular Weight: 475.56	
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:

SU0268 is a potent and selective OGG1 inhibitor. DNA glycosylases involved in the first step of the DNA base excision repair pathway are promising targets in cancer therapy. There is evidence that reduction of their activities may enhance cell killing in malignant tumors.

## 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	5	10.51

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.10 mL	10.51 mL	21.03 mL
5 mM	0.42 mL	2.10 mL	4.21 mL
10 mM	0.21 mL	1.05 mL	2.10 mL
50 mM	0.04 mL	0.21 mL	0.42 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

Tahara YK, Auld D, Ji D, Beharry AA, Kietrys AM, Wilson DL, Jimenez M, King D, Nguyen Z, Kool ET. Potent and Selective Inhibitors of 8-Oxoguanine DNA Glycosylase. *J Am Chem Soc.* 2018 Feb 14;140(6):2105-2114. doi: 10.1021/jacs.7b09316. Epub 2018 Feb 5. PMID: 29376367; PMCID: PMC5823510.

### In vivo study

Qin S, Lin P, Wu Q, Pu Q, Zhou C, Wang B, Gao P, Wang Z, Gao A, Overby M, Yang J, Jiang J, Wilson DL, Tahara YK, Kool ET, Xia Z, Wu M. Small-Molecule Inhibitor of 8-Oxoguanine DNA Glycosylase 1 Regulates Inflammatory Responses during *Pseudomonas aeruginosa* Infection. *J Immunol.* 2020 Oct 15;205(8):2231-2242. doi: 10.4049/jimmunol.1901533. Epub 2020 Sep 14. PMID: 32929043; PMCID: PMC7541742.

## 7. Bioactivity

### Biological target:

OGG1 Inhibitor O8 is a potent inhibitor of 8-Oxoguanine DNA Glycosylase-1 (OGG1)

# Product data sheet



## In vitro activity

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Optimization of the tetrahydroquinoline scaffold over five regions of the structure ultimately yielded amidobiphenyl compound 41 (SU0268; IC<sub>50</sub> = 0.059 μM). SU0268 was confirmed by surface plasmon resonance studies to bind the enzyme both in the absence and in the presence of DNA. The compound SU0268 was shown to be selective for inhibiting OGG1 over multiple repair enzymes, including other base excision repair enzymes, and displayed no toxicity in two human cell lines at 10 μM. Finally, experiments confirm the ability of SU0268 to inhibit OGG1 in HeLa cells, resulting in an increase in accumulation of 8-OG in DNA. The results suggest the compound SU0268 as a potentially useful tool in studies of the role of OGG1 in multiple disease-related pathways.

Reference: Tahara YK, Auld D, Ji D, Beharry AA, Kietrys AM, Wilson DL, Jimenez M, King D, Nguyen Z, Kool ET. Potent and Selective Inhibitors of 8-Oxoguanine DNA Glycosylase. *J Am Chem Soc.* 2018 Feb 14;140(6):2105-2114. doi: 10.1021/jacs.7b09316. Epub 2018 Feb 5. PMID: 29376367; PMCID: PMC5823510.

## In vivo activity

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A recently developed small molecule, SU0268, has demonstrated selective inhibition of OGG1 activity; however, its role in attenuating inflammatory responses has not been tested. In this study, it was reported that SU0268 has a favorable effect on bacterial infection both in mouse alveolar macrophages (MH-S cells) and in C57BL/6 wild-type mice by suppressing inflammatory responses, particularly promoting type I IFN responses. SU0268 inhibited proinflammatory responses during *Pseudomonas aeruginosa* (PA14) infection, which is mediated by the KRAS-ERK1-NF-κB signaling pathway. Furthermore, SU0268 induces the release of type I IFN by the mitochondrial DNA-cGAS-STING-IRF3-IFN-β axis, which decreases bacterial loads and halts disease progression. Collectively, the results demonstrate that the small-molecule inhibitor of OGG1 (SU0268) can attenuate excessive inflammation and improve mouse survival rates during PA14 infection. This strong anti-inflammatory feature may render the inhibitor as an alternative treatment for controlling severe inflammatory responses to bacterial infection.

Reference: Qin S, Lin P, Wu Q, Pu Q, Zhou C, Wang B, Gao P, Wang Z, Gao A, Overby M, Yang J, Jiang J, Wilson DL, Tahara YK, Kool ET, Xia Z, Wu M. Small-Molecule Inhibitor of 8-Oxoguanine DNA Glycosylase 1 Regulates Inflammatory Responses during *Pseudomonas aeruginosa* Infection. *J Immunol.* 2020 Oct 15;205(8):2231-2242. doi: 10.4049/jimmunol.1901533. Epub 2020 Sep 14. PMID: 32929043; PMCID: PMC7541742.

*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.*