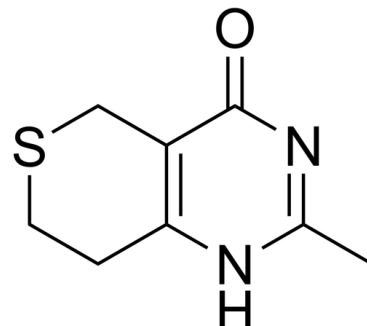


## Data Sheet

<b>Product Name:</b>	DR2313
<b>Cat. No.:</b>	CS-0026455
<b>CAS No.:</b>	284028-90-6
<b>Molecular Formula:</b>	C <sub>8</sub> H <sub>10</sub> N <sub>2</sub> OS
<b>Molecular Weight:</b>	182.24
<b>Target:</b>	PARP
<b>Pathway:</b>	Cell Cycle/DNA Damage; Epigenetics
<b>Solubility:</b>	DMSO : 12.5 mg/mL (ultrasonic); H <sub>2</sub> O : ≥ 100 mg/mL



### BIOLOGICAL ACTIVITY:

DR2313 is a potent, selective, competitive and brain-penetrant inhibitor of **poly(ADP-ribose) polymerase (PARP)**, with **IC<sub>50</sub>s** of 0.20  $\mu$ M and 0.24  $\mu$ M for **PARP-1** and **PARP-2**, respectively. DR2313 exhibits neuroprotective effects on ischemic injuries in vitro and in vivo<sup>[1][2]</sup>. *In Vitro*: DR2313 (0.016-16.4  $\mu$ M; 30 min) inhibits poly(ADP-ribosyl)ation reaction in nuclear extracts of rat brain, with a **K<sub>i</sub>** of 0.23  $\mu$ M<sup>[1]</sup>.

DR2313 shows more powerful inhibition of the poly(ADP-ribosyl)ation in the nuclear extracts of the rat brain (**IC<sub>50</sub>**=0.20  $\mu$ M) than 3AB (35.4  $\mu$ M), PND (0.56  $\mu$ M), DIQ (2.96  $\mu$ M), and DPQ (0.96  $\mu$ M)<sup>[1]</sup>.

DR2313 (1-100  $\mu$ M; 10 min) shows a weak inhibition of the mono(ADP-ribosyl)ation in a concentration-dependent manner (**IC<sub>50</sub>**=59  $\mu$ M)<sup>[1]</sup>.

DR2313 (0.1-30  $\mu$ M; pretreated for 30 min) reduces hydrogen peroxide (500  $\mu$ M; 4 h) or glutamate (1 mM; 30 min) induced excessive formation of poly(ADP-ribose) and cell death<sup>[1]</sup>. *In Vivo*: DR2313 (3-10 mg/kg i.v. bolus or infusion for 6 h) significantly reduces the cortical infarct volume in both permanent and transient focal ischemia models in rats<sup>[1]</sup>.

### References:

[1]. Nakajima H, et, al. A newly synthesized poly(ADP-ribose) polymerase inhibitor, DR2313 [2-methyl-3,5,7,8-tetrahydrothiopyrano[4,3-d]pyrimidin-4-one]: pharmacological profiles, neuroprotective effects, and therapeutic time window in cerebral ischemia in rats. J Pharmacol Exp Ther. 2005 Feb;312(2):472-81.

[2]. Xu Z, et, al. Endonuclease G does not play an obligatory role in poly(ADP-ribose) polymerase-dependent cell death after transient focal cerebral ischemia. Am J Physiol Regul Integr Comp Physiol. 2010 Jul;299(1):R215-21.

### CAIndexNames:

4H-Thiopyrano[4,3-d]pyrimidin-4-one, 3,5,7,8-tetrahydro-2-methyl-

### SMILES:

O=C1C(CSCC2)=C2NC(C)=N1

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

Tel: 610-426-3128

Fax: 888-484-5008

E-mail: [sales@ChemScene.com](mailto:sales@ChemScene.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA