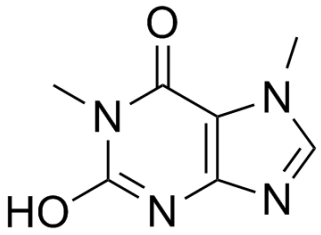
Paraxanthine

Cat. No.:	HY-W016498
CAS No.:	611-59-6
Molecular Formula:	$C_7H_8N_4O_2$
Molecular Weight:	180.17
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the COA.



BIOLOGICAL ACTIVITY

Description	Paraxanthine, a caffeine metabolite, provides protection against Dopaminergic cell death via stimulation of Ryanodine Receptor Channels.	
IC_{50} & Target	Ryanodine Receptor Channels	Human Endogenous Metabolite
In Vitro	When Paraxanthine (PX) is applied to the cultures for a prolonged period, the number of TH+neurons is augmented in a dose-dependent manner. The effect of Paraxanthine, already significant at 100 μM, increases gradually and remains optimal between 800 and 1000 μM, at 10 DIV. Counts of TH+neurons performs at different stages of maturation of the cultures indicate that Paraxanthine most likely prevents DA cell loss. GDNF, a prototypical trophic factor for DA neurons, is only slightly more effective than 800 μM Paraxanthine in rescuing DA neurons after 10 and 16 DIV when used at an optimal concentration of 20 ng/mL. About 80% of caffeine is N3-demethylated to form Paraxanthine, Unlike Paraxanthine, caffeine is poorly effective in protecting DA neurons from death For example, at a concentration of 800 μM, caffeine produces only a modest 40% increase in the number of TH+ cells at 10 DIV, whereas the same concentration of Paraxanthine optimally promotes DA cell survival (169% increase)[1].	

CUSTOMER VALIDATION

- **Chemosphere**. 2019 Jun;225:378-387.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Guerreiro S, et al. Paraxanthine, the primary metabolite of caffeine, provides protection against dopaminergic cell death via stimulation of ryanodine receptor channels. Mol Pharmacol. 2008 Oct;74(4):980-9.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA