FEMA 4774

Cat. No.: HY-139091

CAS No.: 1359963-68-0

Molecular Formula: $C_{19}H_{25}N_3O_4$

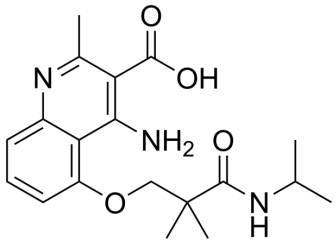
Molecular Weight: 359.42

Target: Taste Receptor

Pathway: GPCR/G Protein

Storage: 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 41.67 mg/mL (115.94 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration / Solvent / Mass	1 mg	5 mg	10 mg
1 mM	2.7823 mL	13.9113 mL	27.8226 mL
5 mM	0.5565 mL	2.7823 mL	5.5645 mL
10 mM	0.2782 mL	1.3911 mL	2.7823 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

FEMA 4774 is a positive allosteric modulator of taste receptors T1R2 and T1R3, two subunits of the human sweet taste receptor. FEMA 4774 is also used as a sucrose sweetness enhancer[1].

In Vitro

FEMA 4774 (0-50 μM) induces a dose-dependent decrease in the EC_{50} value of sucrose and significantly enhances the affinity of sucrose for its binding site with an α (effect of modulator on agonist affinity) value of 30 in the human sweet receptor cells [1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

FEMA 4774 (S9632) (oral gavage, 500-2000 mg/kg) does not cause a dose-dependent increase in polychromatic erythrocytes and induces micronuclei formation at dose levels up to 2000 mg/kg in Swiss albino (CD-1) mice[2].

The pharmacokinetic parameters of FEMA 4774 (S9632) in Male and Female Sprague-Dawley Rats

Route	Day	Dose (mg/kg)	Sex	C_{max} (ng/mL)±SD	T_{max} (hr)	$t_{1/2}$ (hr)	$AUC0_{last}$ (ng•hr/mL)	$AUC0_{last/dose}$ (ng•hr/mL/mg/kg)	%F

iv	1	1.0	M	2036.7±281.9	0.03	0.19	330.6±58	330.6	-
			F	2625.8±679.9	0.03	0.27	411.9±116.3	411.9	-
Oral gavage	1	10	M	12.9±3.2	0.25	1.21	17.9±2.3	1.79	0.54
			F	34.0±3.9	0.25	1.17	49.2±7.8	4.92	1.19
		30	M	90.0±23.9	0.33	0.88	90.8±11.0	3.03	0.92
			F	62.4±25.9	0.42	1.06	95.0±20.4	3.17	0.77
		100	M	147.2±86.3	0.33	0.71	176.2±73.8	1.76	0.53
			F	268.5±90.7	0.25	0.99	341.1±81.0	3.41	0.83
Oral gavage	7	10	M	16.2±3.6	0.50	0.84	48.1±33.2	4.81	-
			F	32.7±9.7	0.33	1.17	58.9±25.4	5.89	-
		30	M	74.5±16.2	0.33	0.94	86.0±8.7	2.87	-
			F	77.1±41.7	0.25	1.39	106.8±8.7	3.56	-
		100	M	117.9±15.3	0.25	0.72	185.3±15.3	1.85	-
			F	189.7±79.5	0.25	0.89	278.9±79.0	2.79	-

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Guy Servant, et al. The function and allosteric control of the human sweet taste receptor. Adv Pharmacol. 2020;88:59-82.

[2]. Amy J Arthur, et al. Toxicological evaluation of the flavour ingredient 4-amino-5-(3-(isopropylamino)-2,2-dimethyl-3-oxopropoxy)-2-methylquinoline-3-carboxylic acid. Toxicol Rep. 2015 Sep 3;2:1255-1264.

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