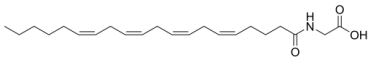
Data Sheet

Product Name:	N-Arachidonylglycine
Cat. No.:	CS-0027664
CAS No.:	179113-91-8
Molecular Formula:	$C_{22}H_{35}NO_3$
Molecular Weight:	361.52
Target:	Endogenous Metabolite; GlyT
Pathway:	Membrane Transporter/Ion Channel; Metabolic Enzyme/Protease; Neuronal Signaling
Solubility:	Ethanol : 50 mg/mL (ultrasonic);DMSO : 100 mg/mL (ultrasonic;warming;heat to 60°C)



BIOLOGICAL ACTIVITY:

N-Arachidonylglycine (NA-Gly), a carboxylic analog of the endocannabinoid anandamide (AEA), is a **GPR18** agonist (**EC_{50}** = 44.5 nM). Unlike AEA, N-Arachidonylglycine has no activity at either CB1 or CB2 receptors. N-Arachidonylglycine inhibits **GLYT2** (**IC_{50}** = 5.1 μM). N-Arachidonylglycine also is an effective activator of endometrial cell migration[1][2]. IC50 & Target:EC50: 44.5 nM (GPR18); IC50: 5.1 μM(GLYT2) ***In Vitro:*** N-Arachidonylglycine (0.1 nM-100 μM; 5 min) drives MAPK activation in GPR18-transfected HEK293 cells[1].

N-Arachidonylglycine shows no activity at GLYT1 or GAT1 at concentrations up to 100 μm[2]. ***In Vivo:*** N-Arachidonylglycine (10 mg/kg; oral) increases blood concentrations of anandamide 9-fold[3].

N-Arachidonylglycine (1.2 mg/kg; oral; once) results in a significant 70% reduction of peritoneal cells[3].

References:

[1]. McHugh D, et al. Δ(9) -Tetrahydrocannabinol and N-arachidonyl glycine are full agonists at GPR18 receptors and induce migration in human endometrial HEC-1B cells. Br J Pharmacol. 2012;165(8):2414-2424.

[2]. Edington AR, et al. Extracellular loops 2 and 4 of GLYT2 are required for N-arachidonylglycine inhibition of glycine transport. J Biol Chem. 2009;284(52):36424-36430.

[3]. Burstein SH. N-Acyl Amino Acids (Elmiric Acids): Endogenous Signaling Molecules with Therapeutic Potential. Mol Pharmacol. 2018;93(3):228-238.

CAIndexNames:

Glycine, N-[(5Z,8Z,11Z,14Z)-1-oxo-5,8,11,14-eicosatetraen-1-yl]-

SMILES:

O=C(O)CNC(CCC/C=C\C/C=C\C/C=C\C/C=C\CCCCC)=O

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

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