

GPR119

Overview: GPR119 receptors (provisional nomenclature) are activated by endogenous fatty acid ethanolamines, particularly *N*-oleoylethanolamine (OEA) and *N*-palmitoylethanolamine (PEA). Although these agents are structurally related to the endogenous cannabinoid receptor ligand anandamide, there seems to be no overlap in pharmacology between the two receptor systems. Oleoyl-lysophosphatidylcholine has also been suggested to act, at least in part, through GPR119 (Ning *et al.*, 2008).

Nomenclature	GPR119
Other names	SNORF25
Ensembl ID	ENSG00000147262
Principal transduction	G _s (Overton <i>et al.</i> , 2006; Ning <i>et al.</i> , 2008)
Rank order of potency	OEA, PEA > SEA (anandamide is ineffective, Overton <i>et al.</i> , 2006)
Selective agonists	PSN375963, PSN632408 (Overton <i>et al.</i> , 2006)

Although PSN375963 and PSN632408 produce GPR119-dependent responses in heterologous expression systems, comparison with OEA-mediated responses suggests additional mechanisms of action (Ning *et al.*, 2008). Gene and mRNA disruption indicates a necessary role for GPR119 in glucagon-like peptide 1 secretion from intestinal L cells (Lan *et al.*, 2009; Lauffer *et al.*, 2009).

Abbreviations: AEA, anandamide; OEA, *N*-oleoylethanolamine; PEA, *N*-palmitoylethanolamine; **PSN375963**, 4-[5-(4-butylcyclohexyl)-1,2,4-oxadiazol-3-yl]-pyridine hydrochloride; **PSN632408**, 4-[[3-(4-pyridinyl)-1,2,4-oxadiazol-5-yl]methoxy]-1-piperidinecarboxylic acid, 1,1-dimethylethyl ester; SEA, *N*-stearoylethanolamine

Further Reading

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