



上海源叶生物科技有限公司
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产品名称: (9E)-9-十六烯酸
产品别名: 棕榈酸酯; Palmitelaic Acid

生物活性:					
Description	Palmitelaidic Acid (9-trans-Hexadecenoic acid) is the trans isomer of palmitoleic acid. Palmitoleic acid is one of the most abundant fatty acids in serum and tissue.				
IC ₅₀ & Target	AMPK	PPARα	Glucokinase		
In Vitro	The monounsaturated fatty acid palmitoleate (palmitoleic acid) is one of the most abundant fatty acids in serum and tissues, particularly adipose tissue and liver. Its endogenous production by stearyl-CoA desaturase 1 gives rise to its cis isoform, cis-palmitoleate. Palmitoleic acid has been correlated with multiple cardiometabolic risk factors, including high blood pressure, total cholesterol, TGs, apoA-I, apoB, and endothelial dysfunction[1].				
In Vivo	Palmitoleic acid promotes a faster uptake of glucose in the body, associated with higher insulin concentration. Palmitoleic acid increases the phosphorylation of AMPK, up-regulates glucokinase and down-regulates SREBP-1. Regarding AMPK downstream, palmitoleic acid increases the production of FGF-21 and stimulates the expression of PPARα[2]. Palmitoleic acid reduces body weight increase, ameliorates the development of hyperglycemia and hypertriglyceridemia, and improves insulin sensitivity. Furthermore, palmitoleic acid down-regulates mRNA expressions of proinflammatory adipocytokine genes (TNFα and resistin) in white adipose tissue and lipogenic genes (SREBP-1, FAS, and SCD-1) in liver[3].				
Solvent&Solubility	In Vitro: Ethanol : 100 mg/mL (393.07 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	Preparing	1 mM	3.9307 mL	19.6533 mL	39.3066 mL
	Stock Solutions	5 mM	0.7861 mL	3.9307 mL	7.8613 mL
		10 mM	0.3931 mL	1.9653 mL	3.9307 mL
*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液，一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。 储备液的保存方式和期限：-80℃，6 months；-20℃，1 month。 -80℃ 储存时，请在 6 个月内使用，-20℃ 储存时，请在 1 个月内使用。					
References	[1]. Frigolet ME, et al. The Role of the Novel Lipokine Palmitoleic Acid in Health and Disease. [2]. de Souza CO, et al. Palmitoleic Acid Improves Metabolic Functions in Fatty Liver by PPARα-Dependent AMPK Activation. J Cell Physiol. 2016 Dec 7. doi: 10.1002/jcp.25715. [3]. Yang ZH, et al. Chronic administration of palmitoleic acid reduces insulin resistance and hepatic lipid accumulation in KK-Ay Mice with genetic type 2 diabetes. Lipids Health Dis. 2011 Jul 21;10:120.				
实验参考:					
Animal Administration	Mice: Male C57BL/6J wild type and PPARα-KO mice are fed a high-fat diet or a standard diet for 12 weeks. In the last two weeks, the HF-fed mice are treated daily with oleic acid (300 mg/kg of body weight) or palmitoleic acid (00 mg/kg of body weight) by oral gavage. After 12 weeks, the mice are				



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	fasted for 6 h, injected with insulin or PBS vehicle. Blood and liver samples are collected and stored for the further analysis of RNA and protein expression[2].
References	<p>[1]. Frigolet ME, et al. The Role of the Novel Lipokine Palmitoleic Acid in Health and Disease.</p> <p>[2]. de Souza CO, et al. Palmitoleic Acid Improves Metabolic Functions in Fatty Liver by PPARα-Dependent AMPK Activation. J Cell Physiol. 2016 Dec 7. doi: 10.1002/jcp.25715.</p> <p>[3]. Yang ZH, et al. Chronic administration of palmitoleic acid reduces insulin resistance and hepatic lipid accumulation in KK-Ay Mice with genetic type 2 diabetes. Lipids Health Dis. 2011 Jul 21;10:120.</p>



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