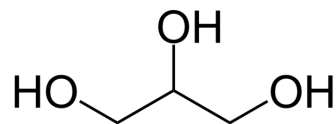


## Glycerol

Cat. No.:	HY-B1659		
CAS No.:	56-81-5		
Molecular Formula:	C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>		
Molecular Weight:	92.09		
Target:	Endogenous Metabolite		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Pure form	-20°C	3 years
		4°C	2 years



### SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (1085.89 mM; Need ultrasonic)
	H <sub>2</sub> O : 100 mg/mL (1085.89 mM; Need ultrasonic)

### BIOLOGICAL ACTIVITY

Description	Glycerol is used in sample preparation and gel formation for polyacrylamide gel electrophoresis.
IC <sub>50</sub> & Target	Human Endogenous Metabolite
In Vitro	<p>Glycerol is often included in polyacrylamide gels to prevent dissociation of nucleosomes and other protein-DNA complexes during electrophoresis. With glycerol included, fractionation seems to be largely based on particle mass and charge. The concentration of glycerol during electrophoresis strongly affects the separation characteristics of polyacrylamide gels<sup>[1]</sup>. Glycerol is an inevitable by-product of oils/fats processing, regardless of the pathway. Fermentative metabolism of glycerol has been studied in great detail in several species of the Enterobacteriaceae family, such as <i>Citrobacter freundii</i> and <i>Klebsiella pneumoniae</i>. The use of anaerobic fermentation to convert abundant and low-priced glycerol streams generated in the production of biodiesel into higher value products represents a promising route to achieve economic viability in the biofuels industry<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>Glycerol can induce acute renal failure in rat models. Acute renal failure induced by glycerol or uranyl nitrate reduces the hepato-biliary transport of some drugs, modulates the distribution of drugs into the central nervous system and affects the activity of various hepatic microsomal enzymes<sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

### PROTOCOL

Animal Administration <sup>[3]</sup>	<p>Rats: Experimental acute renal failure was induced in male Wistar rats 230-300 g by an injection of glycerol dissolved in saline (50% v/v, 10 mL/kg) into the leg muscle after a 24-h period of water deprivation<sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
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## REFERENCES

- [1]. Pennings S, et al. Effect of glycerol on the separation of nucleosomes and bent DNA in low ionic strength polyacrylamide gel electrophoresis. *Nucleic Acids Res.* 1992 Dec 25;20(24):6667-72.
- [2]. Yazdani SS, et al. Anaerobic fermentation of glycerol: a path to economic viability for the biofuels industry. *Curr Opin Biotechnol.* 2007 Jun;18(3):213-9.
- [3]. Huang ZH, et al. Expression and function of P-glycoprotein in rats with glycerol-induced acute renal failure. *Eur J Pharmacol.* 2000 Oct 20;406(3):453-60.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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