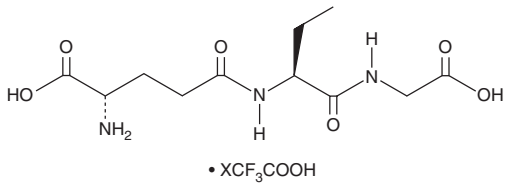
PRODUCT INFORMATION

Ophthalmic Acid (trifluoroacetate salt)

Item No. 35343

Formal Name:	L-γ-glutamyl-(2S)-2-aminobutanoyl-glycine, trifluoroacetate salt
MF:	$C_{11}H_{19}N_3O_6 \bullet XCF_3COOH$
FW:	289.3
Purity:	≥98%
Supplied as:	A 10 mg/ml solution in ethanol
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Ophthalmic acid (trifluoroacetate salt) is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of ophthalmic acid (trifluoroacetate salt) in ethanol is approximately 12 mg/ml and approximately 5 mg/ml in DMSO and DMF.

Ophthalmic acid (trifluoroacetate salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of ophthalmic acid (trifluoroacetate salt) should be diluted with the aqueous buffer of choice. The solubility of ophthalmic acid (trifluoroacetate salt) in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ophthalmic acid is a glutathione (GSH) analog and biomarker of hepatic glutathione depletion.[1] It is formed *via* the GSH synthesis pathway, substituting 2-aminobutyrate for cysteine. Plasma and hepatic levels of ophthalmic acid are increased in fasted mice and in a mouse model of acetaminophen-induced hepatotoxicity.[1,2]

References

1. Kobayashi, S., Lee, J., Takao, T., *et al*. Increased ophthalmic acid production is supported by amino acid catabolism under fasting conditions in mice. *Biochem. Biophys. Res. Commun.* **491(3)**, 649-655 (2017).
2. Soga, T., Baran, R., Suematsu, M., *et al*. Differential metabolomics reveals ophthalmic acid as an oxidative stress biomarker indicating hepatic glutathione consumption. *J. Biol. Chem.* **281(24)**, 16768-16776 (2006).

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