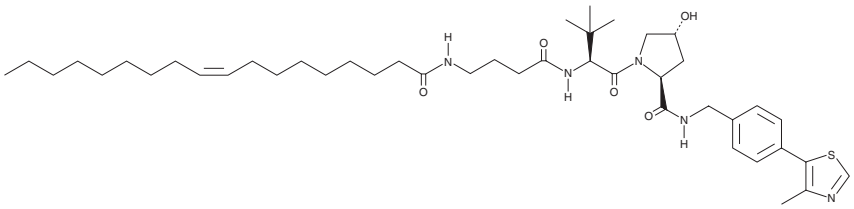
PRODUCT INFORMATION

Ferritin PROTAC DeFer-2

Item No. 38931

Formal Name:	(2S,4R)-1-((S)-3,3-dimethyl-2-(4-oleamidobutanamido)butanoyl)-4-hydroxy-N-(4-(4-methylthiazol-5-yl)benzyl)pyrrolidine-2-carboxamide
Synonym:	Ferritin Proteolysis-targeting Chimera DeFer2
MF:	$C_{44}H_{69}N_5O_5S$
FW:	780.1
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥3 years



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

Laboratory Procedures

Ferritin PROTAC DeFer-2 is supplied as a solid. A stock solution may be made by dissolving the ferritin PROTAC DeFer-2 in the solvent of choice, which should be purged with an inert gas. Ferritin PROTAC DeFer-2 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of ferritin PROTAC DeFer-2 in these solvents is approximately 30, 10, and 20 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of ferritin PROTAC DeFer-2 can be prepared by directly dissolving the solid in aqueous buffers. Ferritin PROTAC DeFer-2 is slightly soluble in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Ferritin PROTAC DeFer-2 is a proteolysis-targeting chimera (PROTAC) containing oleic acid (Item Nos. 90260 | 24659), which binds to ferritin dimers, conjugated to von Hippel-Lindau ligand (VHL ligand 1; Item No. 21591), which binds to VHL E3 ligase, *via* an alkyl linker.[1] It induces ferritin degradation in B16/F10 murine melanoma cells when used at a concentration of 0.5 µM, an effect not induced by a negative control with an inverted VHL ligand 1 stereocenter, indicating that the E3 ligase activity of VHL ligand 1 is required for this effect. Ferritin PROTAC DeFer-2 (5 µM) increases intracellular levels of free iron and induces pyroptosis in B16/F10 cells. Ferritin PROTAC De-Fer-2 (10 mg/kg) encapsulated in albumin nanoparticles reduces tumor growth and increases survival in a B16/F10 murine melanoma model.

Reference

1. Chen, Y., Li, W., Kwon, S., *et al.* Small-molecule ferritin degrader as a pyroptosis inducer. *J. Am. Chem. Soc.* **145(17)**, 9815-9824 (2023).

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