Product Data Sheet

Product Name: HMB-Val-Ser-Leu-VE
Cat. No.: GC16699

Chemical Properties

Cas. No.	862891-04-1		
Chemical Name	N-(3-hydroxy-2-methylbenzoyl)-L-valyl-N-[(1S,2E)-4-ethoxy-1-(2-methylpropyl)-4-oxo-2-butenyl]-L-serinamide		
SMILES	OC1=CC=CC(C(N[C@@H](C(C)C)C(N[C@@H](CO)C(N[C@@H](CC(C)C)/C=C/C(OCC)=O)=O)=O)=O)=C1C		
Formula	$C_{26}H_{39}N_3O_7$	M.Wt	505.6
Solubility	≤20mg/ml in ethanol;20mg/ml in DMSO;20mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	HMB-Val-Ser-Leu-VE		

Background

HMB-Val-Ser-Leu-VE is an irreversible, cell-permeable, potent and specific inhibitor of the trypsin-like activity of the 20S proteasome with IC50 value of 33 nM [1].

The 20S proteasome is a 700 kDa, cylinder-shaped protease with multiple catalytic centers within the ubiquitin-proteasome pathway and plays an important role in the selective degradation of intracellular proteins. Proteasomes remove abnormal proteins and play an important role in cell-cycle progression and apoptosis [1][2].

HMB-Val-Ser-Leu-VE is a tripeptide-based compound bearing a C-terminal vinyl ester that acts as a potent and selective inhibitor of the trypsin-like activity of the 20S proteasome with IC50 value of 33 nM [1]. In two colon-carcinoma cell lines (COO115, HCT116), HMB-Val-Ser-Leu-VE was nontoxic and did not affect cell proliferation. In HLA-A2 positive lymphoblastoid cells, HMB-Val-Ser-Leu-VE caused a dose-dependent increase

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of CLG-specific killing, suggesting that HMB-Val-Ser-Leu-VE favored the generation and presentation of immunogenic peptides presented by MHC class I molecules [1].

References:

[1]. Marastoni M, Baldisserotto A, Cellini S, et al. Peptidyl vinyl ester derivatives: new class of selective inhibitors of proteasome trypsin-like activity. J Med Chem. 2005 Jul 28;48(15):5038-42.
[2]. DeMartino GN, Slaughter CA. The proteasome, a novel protease regulated by multiple mechanisms.