

Recombinant Full Length Human Ubiquitin Protein, Vinyl Methyl Ester Labeled

Cat. No. Ubiquitin-14HFL **Lot. No.** (See product label)

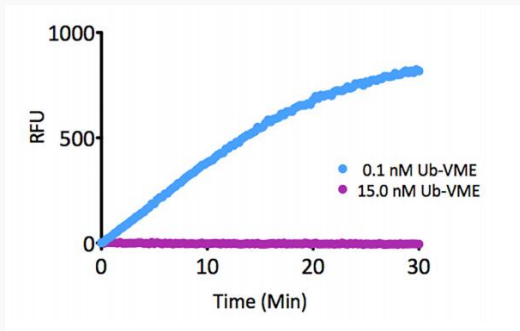
SPECIFICATION

Product Overview	This product consists of a full-length human, mature ubiquitin polypeptide (amino acids 1-76), expressed in E. coli with a c-terminal warhead (Vinyl Methyl Ester).
Species	Human
Source	E.coli
ProteinLength	1-76aa
Description	Ubiquitin is a small (8.5 kDa) regulatory protein that has been found in almost all tissues of eukaryotic organisms. The addition of ubiquitin to a substrate protein is called ubiquitination or ubiquitylation. Ubiquitination can affect proteins in many ways; it can signal for their degradation via the proteasome, alter their cellular location, affect their activity, and promote or prevent protein interactions. Removal of ubiquitin from a substrate protein occurs via deconjugating enzymes, of which there are nearly 100 known enzymes with various linkage specificities. Ubiquitin-Vinyl Methyl Ester is a potent, irreversible, and specific inhibitor of deubiquitinating enzymes (DUBs) based on a C-terminal electrophilic Vinyl Methyl Ester group. It targets three of the four major DUB families: UCH (Ubiquitin c-terminal hydrolases), USP (Ubiquitin Specific Proteases), OTU (Ovarian Tumor Proteases), and MJD (Machado-Josephin domain proteases) while JAMM metalloproteases are not inhibited.
Conjugation/Label	Vinyl Methyl Ester

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Molecular Mass	8.6 kDa																								
Purity	>97% by LCMS																								
Usage	Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human Ubiquitin Vinyl Methyl Ester concentration of 1-5 μ M.																								
Applications	Ub-Vinyl Methyl Ester can be used for activity profiling experiments and determining DUB inhibitor specificity.																								
Notes	For Research Use Only, Not For Use In Humans.																								
Storage	Store at -80 centigrade after product arrival. Avoid multiple freeze/thaws. It is recommended to make multiple aliquots after the first thaw.																								
Storage Buffer	50mM MES pH 6.0, 100mM NaCl																								
Concentration	300uM, 2.6 mg/mL																								
Substrate Properties	Protein-Based Substrate. Typical experimental concentration 1-5 μ M.																								
Kinetic Activity	 The graph displays the kinetic activity of Ub-VME over a 30-minute period. The y-axis represents Relative Fluorescence Units (RFU) from 0 to 1000, and the x-axis represents Time in minutes from 0 to 30. Two data series are plotted: 0.1 nM Ub-VME (blue line) and 15.0 nM Ub-VME (purple line). The 0.1 nM series shows a rapid, nearly linear increase in RFU, while the 15.0 nM series shows a much slower, non-linear increase. <table><caption>Approximate data points from the Kinetic Activity graph</caption><thead><tr><th>Time (Min)</th><th>0.1 nM Ub-VME (RFU)</th><th>15.0 nM Ub-VME (RFU)</th></tr></thead><tbody><tr><td>0</td><td>0</td><td>0</td></tr><tr><td>5</td><td>~250</td><td>~10</td></tr><tr><td>10</td><td>~450</td><td>~20</td></tr><tr><td>15</td><td>~600</td><td>~30</td></tr><tr><td>20</td><td>~700</td><td>~50</td></tr><tr><td>25</td><td>~780</td><td>~80</td></tr><tr><td>30</td><td>~820</td><td>~100</td></tr></tbody></table>	Time (Min)	0.1 nM Ub-VME (RFU)	15.0 nM Ub-VME (RFU)	0	0	0	5	~250	~10	10	~450	~20	15	~600	~30	20	~700	~50	25	~780	~80	30	~820	~100
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UCHL3 activity with Ubiquitin-AMC measured in the presence of 15.0 nM and 0.1 nM Ubiquitin Vinyl Methyl Ester.

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