

K29-linked di-ubiquitin (Ub2)

Cat. # SI2902

Background

Several cellular processes are regulated by protein ubiquitination through the attachment of structurally and functionally distinct ubiquitin chains. K29-linked chains are an atypical but biologically relevant linkage type, whose specific cellular functions are still being elucidated. These chains are generally shorter and have been associated with diverse roles, including proteasomal degradation, signal transduction, and regulation of protein homeostasis.

K29-linked diubiquitin (Ub2) consists of two ubiquitin molecules joined by a native isopeptide bond between the C-terminal glycine of the distal ubiquitin and the ϵ -amino group of lysine 29 on the proximal ubiquitin. This product is typically synthesized using chemical ligation.

K29-linked Ub2 serves as a useful tool for identifying and characterizing deubiquitinating enzymes (DUBs) that specifically cleave K29 linkages and for structural and binding studies involving ubiquitin chain recognition by ubiquitin-associated domains (UBAs) or ubiquitin-interacting motifs (UIMs).

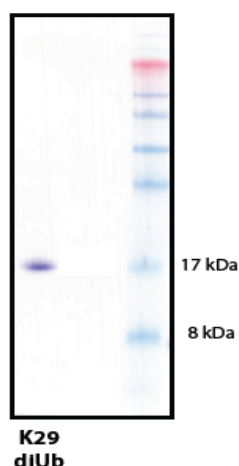
Application(s)

It is a useful substrate for identifying and characterizing deubiquitinating enzymes that cleave the K29-linkage and for structural and binding studies of ubiquitin chain recognition by ubiquitin-associated domains (UBA) or ubiquitin-interacting motifs (UIMs).

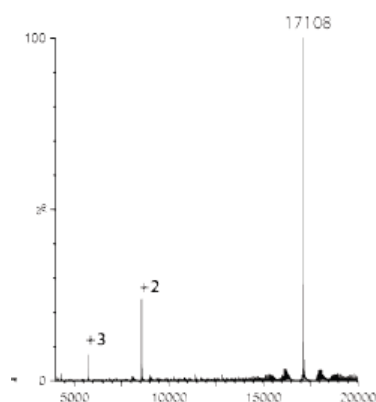
Product Specifications

Tag	None
Purity	$\geq 95\%$ by RP-HPLC
Molecular Weight	17107 Da by MS (calculated 17112 Da)
Quantity	25 μ g
Species	Human
Expression System	<i>E. Coli</i>
Physical State	Liquid
Buffer	20 mM Tris-HCl, pH 7.5, 0.15 M NaCl, 1 mM EDTA
Solubility	0.5 mg/ml
Stability & Storage	Over 1 year at -80° C. Avoid repeated freeze/thaw cycles

Product QC



SDS-PAGE Analysis



Mass Spectrum

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References

1. Kristariyanto YA., et al., K29-selective ubiquitin binding domain reveals structural basis of specificity and heterotypic nature of k29 polyubiquitin. Mol Cell. 2015;58(1):83-94.
2. Yu Y, et al., K29-linked ubiquitin signaling regulates proteotoxic stress response and cell cycle. Nat Chem Biol. 2021 Aug;17(8):896-905.

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