

Linear penta-ubiquitin (Ub5)

Cat. # SI0105

Background

A wide range of cellular processes is modulated through the generation and attachment of polyubiquitin (polyUb) chains to target proteins. Increasing evidence suggests that polyUb chains joined through linear peptide bonds—between the C-terminus of one ubiquitin and the N-terminus of another—play important functional roles. The enzymatic machinery responsible for the generation of linear polyUb chains is termed LUBAC, consisting of HOIL-1L and HOIP. Chains of this type have been shown to adopt an open conformation, similar to polyUb K63, but with distinct functional properties.

Linear polyUb chains are cleaved by the deubiquitylases CYLD, USP5 (IsoT), and USP2, and have been shown to bind to various UBDs, including NEMO and Trabin-n (3xNZF).

Recombinant penta-ubiquitin is expressed as a linear chain. Amide linkages join the N- and C-termini of each ubiquitin molecule. This molecule is HIS-tagged at the N-terminus of the most distal ubiquitin.

Application(s)

Protein modification and interactions studies, investigation of

Product Specifications

Affinity Tag	His6
Purity	≥ 90%
Molecular Weight	43 KDa
Quantity	100 µg
Species	Human
Expression System	<i>E. coli</i>
Physical State	Liquid
Buffer	20mM Tris, pH 7.5, 0.15M NaCl, 1mM EDTA
Stability & Storage	Over 1-year at -80° C. Avoid repeated freeze/thaw cycles

References

1. Fennell, L.M., Rahighi, S. and Ikeda, F. (2018), Linear ubiquitin chain-binding domains. *FEBS J*, 285: 2746-2761.
2. Fuminori Tokunaga, Fumiyo Ikeda; Linear ubiquitination in immune and neurodegenerative diseases, and beyond. *Biochem Soc Trans* 29 April 2022; 50 (2): 799–811.

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