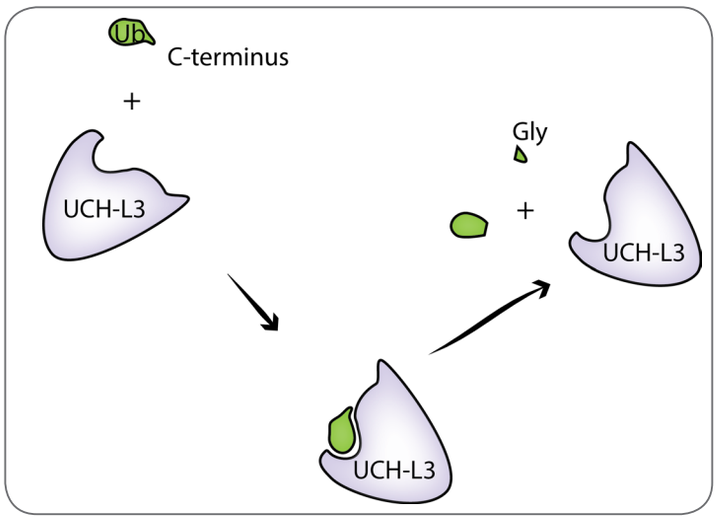
UCHL3, human recombinant

Cat. No. SSB-DE0023
Lot. No. 163060023

South Bay Bío

UCHL3

UCHL3 (Ubiquitin C-terminal Hydrolase L3) is a deubiquitinating enzyme (DUB) that controls levels of cellular ubiquitin through processing of ubiquitin precursors and ubiquitinated proteins. It is a thiol protease that recognizes and hydrolyzes a peptide bond at the C-terminal glycine of either ubiquitin or NEDD8. It plays a role in regulating apical membrane recycling, and indirectly increases the phosphorylation of IGFIR, AKT and FOXO1 and promotes insulin-signaling and insulin-induced adipogenesis. It is required for stress-response in retinal, skeletal muscle and germ cell maintenance. UCHL3 is also known to hydrolyze UBB(+1), a mutated form of ubiquitin which is not effectively degraded by the proteasome and is associated with neurogenerative disorders. It digests precursors and ubiquitinated proteins to generate monomeric ubiquitin. This UCHL3 is recombinatly expressed in *E.Coli*.



Product Information

Quantity: 50µg **Molecular Weight:** 26 kDa

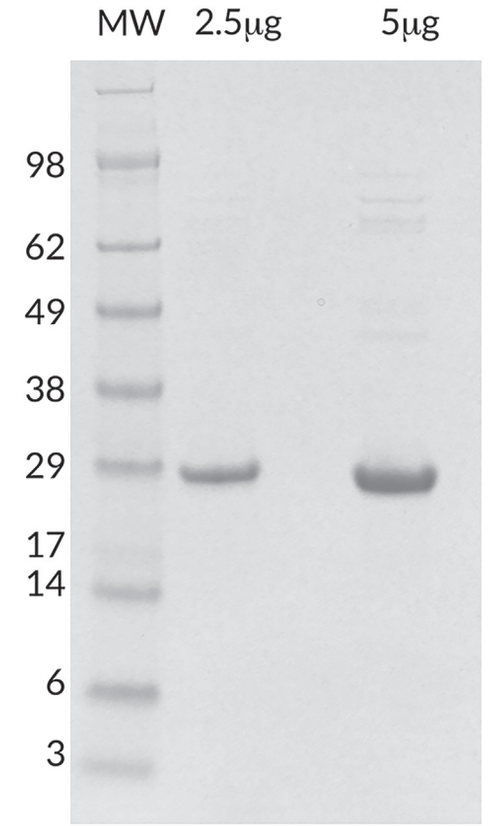
Concentration: 25 µM, 0.65 mg/mL

Purity: >95% by SDS-PAGE

Storage Buffer: 50 mM HEPES pH 7.5, 100 mM NaCl, 1 mM TCEP

Storage: -80C, Avoid multiple freeze / thaw

Quality Control and Performance Data



UCHL3 SDS-PAGE. From left to right, increasing amounts of UCHL3 loaded onto a 4-20% SDS-PAGE gel, stained with Coomassie brillant blue. Purity is > 95%.

For Research Use Only, Not For Use In Humans.

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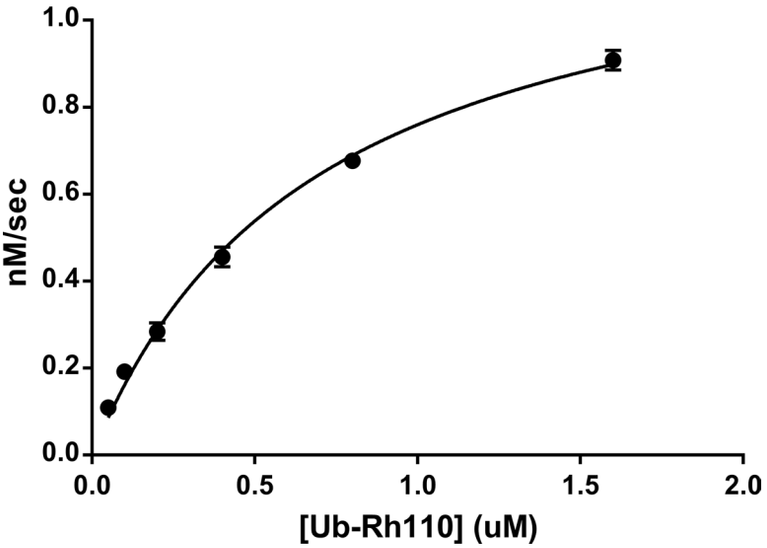

UCHL3 Michaelis-Menten Kinetics. Ubiquitin Rhodamine 110 serially diluted from 1.6 to 0.05 uM was digested with 30pM UCHL3 over time. The assay was carried out in a reaction buffer of 50 mM HEPES pH 7.5, 100 mM NaCl, 1 mM TCEP, 0.1 mg/ml BSA, at 25C. Initial velocities at each substrate concentration were plotted and fit to the Michaelis-Menten equation. Kinetic parameters were calculated at: K_m = 0.69 µM, V_{max} = 1.29 nMs^{-1}, k_{cat} = 43s^{-1}, k_{cat}/K_m = 6.16 x 10^7 $M^{-1}s^{-1}$.

References

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5) Iphofer A., Kummer A., Nimtz M., Ritter A., Arnold T., Frank R., van den Heuvel J., Kessler B.M., Jansch L., Franke R. "Profiling ubiquitin linkage specificities of deubiquitinating enzymes with branched ubiquitin isopeptide probes." ChemBioChem 13:1416-1420(2012)

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