

CPLX3 Protein, Human, Recombinant (His)

General Information

Synonyms:	CPXIII;Nbla11589;CPX-III;complexin 3
Protein Construction:	A DNA sequence encoding the human CPLX3 (Q8WVH0) (Met1-Lys154) was expressed with an N-terminal polyhistidine tag. Predicted N terminal: His
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q8WVH0
Molecular Weight:	19.5 kDa (predicted); 29-32 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

CPLX3, also known as complexin 3, belongs to the complexin/synaphin family. As a SNARE-binding protein, complexin (CPX), can act either as a facilitator or as an inhibitor of membrane fusion, constituting a controversial dilemma. CPX acts sequentially on assembling SNAREpins, first facilitating zippering by nearly doubling the distance at which v- and t-SNAREs can engage and then clamping them into a half-zippered fusion-incompetent state. Specifically, the central helix of CPX allows SNAREs to form this intermediate energetic state at 9-15 nm but

not when the bilayers are closer than 9 nm. Stabilizing the activated-clamped state at separations of less than 9 nm requires the accessory helix of CPX, which prevents membrane-proximal assembly of SNAREpins. CPLX3 binds to the SNARE core complex containing SNAP25, VAMP2 and STX1A.

Reference

Newton-Cheh C. et al., 2009, Nat Genet. 41(6): 666-76.

Li F. et al., 2011, Nat Struct Mol Biol. 18 (8): 941-6.

Amin N. et al., 2012, Mol Psychiatry. 17 (11): 1116-29.

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