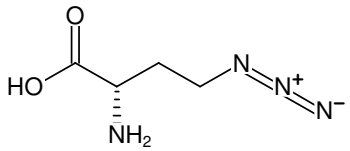
DATA SHEET

Jena Bioscience

4-Azido-L-homoalanine HCl (L-AHA)

(S)-2-Amino-4-azidobutanoic acid hydrochloride

Cat. No.	Amount
CLK-AA005-10	10 mg
CLK-AA005-100	100 mg
CLK-AA005-500	500 mg



Structural formula of 4-Azido-L-homoalanine HCl (L-AHA)

For research use only.

Shipping: shipped on gel packs

Storage Conditions: store at 4 °C

Additional Storage Conditions: store dry

Shelf Life: 12 months after date of delivery

Molecular Formula: $C_4H_8N_4O_2$

Molecular Weight: 144.13 g/mol (free acid)

Exact Mass: 144.06 g/mol (free acid)

CAS#: 942518-29-8

Purity: mass identification conforms (ESI-MS)

Form: powder

Color: white

Applications:
Proteins synthesis monitoring[1,2,3]

Description:
4-Azido-L-homoalanine (L-AHA) provides a non-radioactive alternative to analyze the global protein synthesis in cell culture. It is cell-permeable and randomly incorporated instead of methionine during translation[1,2,3]. The resulting azide-labeled full-length proteins can subsequently be detected via Cu(I)-catalyzed or Cu(I)-free click chemistry that offers the choice to introduce a Biotin group (via Azides of Biotin or DBCO-containing Biotin, respectively) for subsequent purification tasks or a fluorescent group (via Azides of fluorescent dyes or DBCO-containing fluorescent dyes, respectively) for subsequent microscopic imaging.

Presolski *et al.*[4] and Hong *et al.*[5] provide a general protocol for Cu(I)-catalyzed click chemistry reactions that may be used as a starting point for the set up and optimization of individual assays.

Related Products:
Copper (II)-Sulphate ($CuSO_4$), #CLK-MI004
Tris(3-hydroxypropyltriazolylmethyl)amine (THPTA), #CLK-1010
Sodium Ascorbate (Na-Ascorbate), #CLK-MI005

Selected References:

[1] Dieck *et al.* (2012) Metabolic Labeling with Noncanonical Amino Acids and Visualisation by Chemoselective Fluorescent Tagging. *Current Protocols in Cell Biology* **7**:7.11.1.

[2] Kiick *et al.* (2002) Incorporation of azides into recombinant proteins for chemoselective modification by the Staudinger ligation. *Proc. Natl. Acad. Sci. USA* **99 (1)**:19.

[3] Dieterich *et al.* (2010) In situ visualization and dynamics of newly synthesized proteins in rat hippocampal neurons. *Nature Neuroscience* **13 (7)**: 897.

[4] Presolski *et al.* (2011) Copper-Catalyzed Azide-Alkyne Click Chemistry for Bioconjugation. *Current Protocols in Chemical Biology* **3**:153.

[5] Hong *et al.* (2011) Analysis and Optimization of Copper-Catalyzed Azide-Alkyne Cycloaddition for Bioconjugation. *Angew. Chem. Int. Ed.* **48**:9879.