

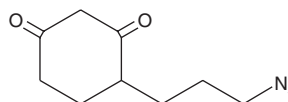
PRODUCT INFORMATION



DAz-2

Item No. 13382

CAS Registry No.: 1176905-54-6
Formal Name: 4-(3-azidopropyl)-1,3-cyclohexanedione
Synonym: DCP-N3
MF: C₉H₁₃N₃O₂
FW: 195.2
Purity: ≥98%
UV/Vis.: λ_{max}: 253 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

DAz-2 is supplied as a crystalline solid. A stock solution may be made by dissolving the DAz-2 in the solvent of choice, which should be purged with an inert gas. DAz-2 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DAz-2 in these solvents is approximately 25, 14, and 20 mg/ml, respectively.

DAz-2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DAz-2 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. DAz-2 has a solubility of approximately 0.1 mg/ml in a 1:10 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DAz-2 is a cell-permeable chemical probe used to detect cysteine oxidation in proteins. Redox-sensitive cysteine residues in proteins may function as sensors of reactive oxygen species (ROS) and also serve as molecular switches, activating or deactivating proteins, following a change in oxidation state. Modification of protein function through the reversible oxidation of cysteine is emerging as a biologically relevant signal transduction mechanism. Sulfenic acid is the initial oxidation product of cysteine by relatively mild oxidizing agents such as hydrogen peroxide. Sulfenic acid can be reduced back to the free thiol or be further oxidized to sulfinic and sulfonic acids.¹ DAz-2 is a cell-permeable chemical probe that reacts specifically with sulfenic acid-modified proteins.² The azido group of DAz-2 provides a method for selective conjugation to phosphine- or alkynyl- derivatized reagents, such as biotin or various fluorophores, for subsequent analysis of the labeled proteins. Use of DAz-2 in HeLa cells followed by Staudinger ligation to biotin and subsequent LC-MS/MS analysis, led to the identification of 193 sulfenic acid-modified proteins having a diverse range of functions.²

References

1. Reddie, K.G. and Carroll, K.S. Expanding the functional diversity of proteins through cysteine oxidation. *Curr. Opin. Chem. Biol.* **12(6)**, 746-754 (2008).
2. Leonard, S.E., Reddie, K.G., and Carroll, K.S. Mining the thiol proteome for sulfenic acid modifications reveals new targets for oxidation in cells. *ACS Chem. Biol.* **4(9)**, 783-799 (2009).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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