

Product Information

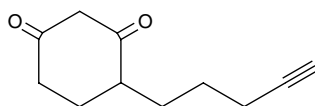


DYn-2

Item No. 11220

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CAS Registry No.: 1354630-46-8
Formal Name: 4-(pent-4-yn-1-yl)cyclohexane-1,3-dione
Synonym: Click Tag™ DYn-2
MF: C₁₁H₁₄O₂
FW: 178.2
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 255 nm



Laboratory Procedures

For long term storage, we suggest that DYn-2 be stored as supplied at -20°C. It should be stable for at least two years.

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

DYn-2 is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Mild oxidation can convert the sulfhydryl group of cysteine residues on proteins to cysteine-sulfenic acid derivatives (Cys-SOH).¹ Protein sulfenylation, then, is a post-translational modification that is relevant to redox signaling. DYn-2 is a chemoselective probe for detecting sulfenylated proteins in intact cells.² DYn-2 consists of 1,3-cyclohexanedione coupled to an alkyne moiety by a 3-carbon spacer. The cyclohexanedione group selectively reacts with protein sulfenic acid modifications.² The alkyne group of DYn-2 can then be detected using azide-bearing tags by standard click chemistry. This approach offers superior sensitivity relative to using azide-modified probes with alkynyl detection tags.³

References

1. Kettenhofen, N.J. and Wood, M.J. Formation, reactivity and detection of protein sulfenic acids. *Chem. Res. Toxicol.* **23**(11), 1633-1646 (2010).
2. Paulsen, C.E., Truong, T.H., Garcia, F.J., *et al.* Peroxide-dependent sulfenylation of the EGFR catalytic site enhances kinase activity. *Nat. Chem. Biol.* **8**, 57-64 (2012).
3. Charron, G., Zhang, M.M., Yount, J.S., *et al.* Robust fluorescent detection of protein fatty-acylation with chemical reporters. *J. Am. Chem. Soc.* **131**, 4967-4975 (2009).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/11220

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. 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

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will meet our specifications at the time of delivery.

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