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Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!



Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Phosphatase Inhibitor Cocktail A: sc-45044

BACKGROUND

Crude cell extracts contain a number of endogenous enzymes, such as proteases and phosphatases, which are capable of modifying the proteins present in the extract. The best way to improve the yield of intact proteins is to add inhibitors of these enzymes known to be present in the source material. Phosphatase Inhibitor Cocktail A has been optimized and tested for L-isozymes of alkaline phosphatase as well as serine/threonine protein phosphatases, such as protein phosphatases 1 and 2A.

REFERENCES

- Jain, M.K. 1982. Handbook of Enzyme Inhibitors. New York: John Wiley and Sons, 222, 334.
- Nishiwaki, S., et al. 1991. Rapid purification of protein phosphatase 2A from mouse brain by microcystin-affinity chromatography. FEBS Lett. 279: 115-118.

PRODUCT

Cantharidin inhibits protein phosphatase 2A (PP-2A). (1,2)

Bromotetramisole inhibits alkaline phosphatases.

Microcystin LR inhibits protein phosphatases 1 and 2A (PP-1 and PP-2A). (3)

PRECAUTIONS

Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

RECOMMENDED USAGE

Recommended usage is a 100-fold dilution.

PROCEDURE

One ml of Phosphatase Inhibitor Cocktail A will inhibit phosphatase activities found in the 100,000 x g supernatant from human placenta, cow liver, rabbit muscle, A431 or Jurkat cell extracts at a protein concentration of approximately 5 mg/ml.

One ml of Phosphatase Inhibitor Cocktail A solution is used to prepare 100 ml of supernatant that contains a maximum of 500 mg of protein. Therefore, 1 ml of cocktail should be added per 500 mg of protein extracted from the tissue used or 1 ml of cocktail solution per 100 ml of extraction buffer.

Phosphatase Inhibitor Cocktail A has been tested on cell extracts from various animal tissues (cytosolic and Triton X-100 extracts of cow liver and human placenta; cytosolic extract of rabbit muscle; Triton X-100 extracts of A431 and Jurkat cells). It was found to inhibit L-isozymes of alkaline phosphatase as measured with p-nitrophenyl phosphate (pNPP) at pH 10.4, and serine/threonine protein phosphatase activities as measured by dephosphorylation of 32P-Ser/Thr-myelin basic protein or 32P-Ser phosphorylase A at pH 7.6.

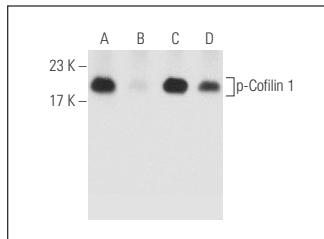
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

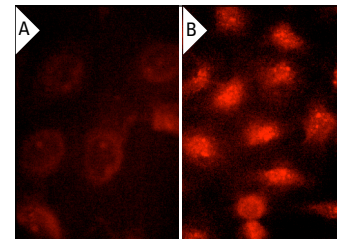
STORAGE

Store at -20° C. Stable for one year from the date of shipment.

DATA



Phosphatase Inhibitor Cocktail A: sc-45044. Western blot analysis of Cofilin 1 phosphorylation in K-562 (A), lambda phosphatase (sc-200312) treated K-562 (B), Phosphatase Inhibitor Cocktail A treated K-562 (C) and Phosphatase Inhibitor Cocktail A and lambda phosphatase treated K-562 (D). Antibody tested: p-Cofilin 1 (H-2): sc-271923. Note inhibition of lambda phosphatase by Phosphatase Inhibitor Cocktail A in lane D.



Phosphatase Inhibitor Cocktail A: sc-45044. Immunofluorescence staining of methanol-fixed lambda protein phosphatase (sc-200312A) treated (A,B) and Phosphatase Inhibitor Cocktail A treated (B) HeLa cells showing nuclear localization and chemical inactivation of lambda phosphatase. Antibody tested: p-NFκB p50 (A-8): sc-271908.

SELECT PRODUCT CITATIONS

- Ikovitch, D., et al. 2008. Antitumor effects of Mucin 1/sec involves the modulation of urokinase-type plasminogen activator and signal transducer and activator of transcription 1 expression in tumor cells. Cancer Res. 68: 2427-2435.
- Wagner, M.W., et al. 2008. Role of c-Abl kinase in DNA mismatch repair-dependent G₂ cell cycle checkpoint arrest responses. J. Biol. Chem. 283: 21382-21393.
- van Kester, M.S., et al. 2008. Cucurbitacin I inhibits Stat3 and induces apoptosis in Sézary cells. J. Invest. Dermatol. 128: 1691-1695.
- Nazarian, R., et al. 2010. Melanomas acquire resistance to B-RAF(V600E) inhibition by RTK or N-RAS upregulation. Nature 468: 973-977.
- Gerjevic, L.N., et al. 2012. Alcohol activates TGF-β but inhibits BMP receptor-mediated smad signaling and Smad4 binding to hepcidin promoter in the liver. Int. J. Hepatol. 2012: 459278.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

Phosphatase Inhibitor Cocktail A: sc-45044



The Power to Question

MATERIAL SAFETY DATA SHEET

Section 1 - Product & Company Identification

Product Name: Phosphatase Inhibitor Cocktail A
Catalog Number: sc-45044
Supplier: Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, CA 95060
800.457.3801 or 831.457.3800
Emergency: ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255 (1-800-CHEMCALL) or call +613 9573 3112

Section 2 - Composition/Information on Ingredient

Substance Name: Phosphatase Inhibitor Cocktail A
CAS #: None

Ingredient Names	CAS #
Dimethyl sulfoxide	67-68-5
Cantharidin	56-25-7
(-)-4-Bromotetramisole oxalate	62284-79-1
Microcystin LR	101043-37-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Combustible. Readily absorbed through skin. Target organ(s): Eyes. Skin.

HMIS RATING

HEALTH: 0
FLAMMABILITY: 2
REACTIVITY: 0

NFPA RATING

HEALTH: 0
FLAMMABILITY: 2
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Combustible liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from heat and open flame. Store at -20°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse.

Section 9 - Physical/Chemical Properties

Physical State	Liquid	pH	N/A
BP/BP Range	N/A	MP/MP Range	N/A
Freezing Point	N/A	Vapor Pressure	N/A
Vapor Density	N/A	Saturated Vapor Conc	N/A
SG/Density	N/A	Bulk Density	N/A
Odor Threshold	N/A	Volatile%	N/A
VOC Content	N/A	Water Content	N/A
Solvent Content	N/A	Evaporation Rate	N/A
Viscosity	N/A	Surface Tension	N/A
Partition Coefficient	N/A	Decomposition Temp.	N/A
Flash Point	N/A	Explosion Limits	N/A
Flammability	N/A	Autoignition Temp	N/A
Refractive Index	N/A	Optical Rotation	N/A
Miscellaneous Data	N/A	Solubility	N/A

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Moisture.

Materials to Avoid: Acid chlorides, Phosphorus halides, Strong oxidizing agents, Strong reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Sulfur oxides, Hydrogen bromide gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact	May cause skin irritation.
Skin Absorption	May be harmful if absorbed through the skin.
Eye Contact	May cause eye irritation.
Inhalation	May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion	May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Eyes. Skin.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Combustible liquid, n.o.s.

UN#: NA1993

Class: COMBUSTIBLE LIQUID

Packing Group: Packing Group III

Hazard Label: None

PIH: Not PIH

IATA

Non-Hazardous for Air Transport

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Safety Statements:

S23-24/25

Do not breathe vapor. Avoid contact with skin and eyes.

US CLASSIFICATION AND LABEL TEXT

US Statements: Combustible. Readily absorbed through skin.

Target organ(s): Eyes. Skin.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other information

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

5/30/2013