Citrulline-specific Probe

Item No. 16172

Formal Name: 3',6'-bis(dimethylamino)-3-oxo-N-((1-(1-oxo-1-((3-(2-oxoacetyl)phenyl)-amino)propan-2-yl)-1H,1,2,3-triazol-4-yl)methyl)-3H-spiro[isobenzofuran-1,9'-xanthene]-5-carboxamide hydrate

Synonyms: Rhodamine Phenylglyoxal, Rh-PG

MF: C_{39}H_{35}N_{7}O_{7} \cdot H_{2}O

FW: 731.8

Purity: ≥90%

Stability: ≥1 year at -20°C

Supplied as: A lyophilized solid

UV/Vis: λ_{max}: 227, 355, 551 nm

Laboratory Procedures

For long term storage, we suggest that citrulline-specific probe be stored as supplied at -20°C. It should be stable for at least one year.

Citrulline-specific probe is supplied as a lyophilized solid. A stock solution may be made by dissolving the citrulline-specific probe in the solvent of choice. Citrulline-specific probe is soluble in organic solvents such as acetonitrile:water (2:1) and dimethyl formamide, which should be purged with an inert gas. The solubility of citrulline-specific probe in these solvents is approximately 1 mg/ml.

Protein arginine deiminases (PADs) catalyze the posttranslational modification of arginine residues on proteins to form citrulline, which plays a large role in regulating gene expression. Abnormally high PAD activity has been observed in a host of human diseases. Citrulline-specific probe is a highly sensitive, rhodamine phenylglyoxal-based fluorophore that specifically detects protein citrullination via a chemoselective reaction between glyoxal and citrulline. This chemical probe (comprised of a single isomer) is capable of reacting with any citrulline-containing protein and can be analyzed with fluorescent imaging (excitation 532 nm; emission 580 nm). When added at 100 µM for 30 minutes at acidic pH, this probe has reported a limit of detection of ~10 ng for citrullinated histone H3 and ~1 ng for autodeiminated PAD4.

References


Related Products

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