チオール類のプレカラム蛍光誘導体化試薬N-〔4-(5,6-ジメトキシ-2-フタルイミジル)フェニル〕マレイミド

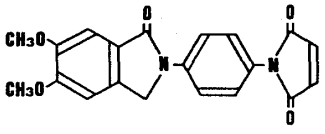
鶴田泰人，守谷和弘，伊達有子，小橋一彌

Anal. Sci., 8, 393-394 (1992)

N-[4-(5,6-Dimethoxy-2-phthalimidyl)phenyl]maleimide as Precolumn Fluorescence Derivatization Reagent for Thiols

Yasuto TSURUTA, Kazuhiro MORITANI
Yuuko DATE and Kazuya KOHASHI

ABSTRACT N-[4-(5,6-Dimethoxy-2-phthalimidyl)phenyl]maleimide (DPM) was developed as a fluorescent labeling reagent for thiols. The reagent, nonfluorescent by itself, reacted with thiols to give highly fluorescent derivatives which showed the fluorescence spectra with excitation and emission wavelengths of Ex 312 nm and Em 422 nm, respectively. The extent of conversion of 2-mercaptoethanol into the fluorescent derivative was 97.5%. DPM was also used as a precolumn labeling reagent in HPLC. The peak heights were correlated to the concentration of thiols up to 500pmol/injection and the detection limits of thiols labeled with DPM were between 12 fmol and 110 fmol/injection.



DPM

抄録 チオール類の蛍光誘導体化試薬としてN-[4-(5,6-ジメトキシ-2-フタルイミジル)フェニル]マレイミドを開発した。試薬自身にはほとんど蛍光はないが，チオール類と反応して，Ex312nm，Em422nm付近に極大波長を有する安定な蛍光誘導体を与えた。2-メルカプトエタノールで誘導体化率を求めたところ97.5%であった。本試薬はチオール類のHPLC分析にも適用でき，検出限界（S／N＝2）は12～110 fmol/（注入量）であった。