

## Accepted Manuscript

On the Synthesis of Quinone-based BODIPY Hybrids: New Insights on Antitumor Activity and Mechanism of Action in Cancer Cells

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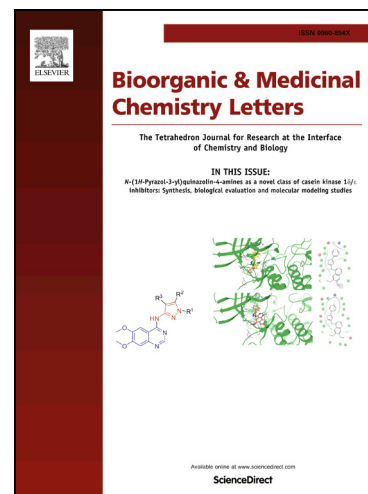
PII: S0960-894X(17)30794-1  
DOI: <http://dx.doi.org/10.1016/j.bmcl.2017.08.007>  
Reference: BMCL 25201

To appear in: *Bioorganic & Medicinal Chemistry Letters*

Received Date: 2 August 2017  
Accepted Date: 3 August 2017

Please cite this article as: Gontijo, T.B., de Freitas, R.P., Emery, F.S., Pedrosa, L.F., Vieira Neto, J.B., Cavalcanti, B.C., Pessoa, C., King, A., de Moliner, F., Vendrell, M., da Silva Júnior, E.N., On the Synthesis of Quinone-based BODIPY Hybrids: New Insights on Antitumor Activity and Mechanism of Action in Cancer Cells, *Bioorganic & Medicinal Chemistry Letters* (2017), doi: <http://dx.doi.org/10.1016/j.bmcl.2017.08.007>

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## On the Synthesis of Quinone-based BODIPY Hybrids: New Insights on Antitumor Activity and Mechanism of Action in Cancer Cells

Talita B. Gontijo,<sup>a</sup> Rossimiriam P. de Freitas,<sup>a</sup> Flavio S. Emery,<sup>b</sup> Leandro F. Pedrosa,<sup>c</sup> José B. Vieira Neto,<sup>d</sup> Bruno C. Cavalcanti,<sup>d</sup> Claudia Pessoa,<sup>d,e</sup> Aaron King,<sup>f</sup> Fabio de Moliner,<sup>f</sup> Marc Vendrell<sup>f,\*</sup> and Eufrânio N. da Silva Júnior<sup>a,\*</sup>

<sup>a</sup>*Institute of Exact Sciences, Department of Chemistry, Federal University of Minas Gerais, Belo Horizonte, 31270-901, MG, Brazil. E-mail: eufranio@ufmg.br; Tel: +55 31 34095720;* <sup>b</sup>*Faculty of Pharmaceutical Sciences at Ribeirao Preto, University of São Paulo, CEP 14040-903, Ribeirão Preto, SP, Brazil;* <sup>c</sup>*Institute of Exact Sciences, Department of Chemistry, Fluminense Federal University, CEP 27213-145, Volta Redonda, RJ, Brazil;* <sup>d</sup>*Department of Physiology and Pharmacology, Federal University of Ceará, CEP 60180-900, Fortaleza, CE, Brazil;* <sup>e</sup>*Fiocruz-Ceará, CEP 60180-900, Fortaleza, CE, Brazil;* <sup>f</sup>*MRC/UoE Centre for Inflammation Research, The University of Edinburgh, EH16 4TJ Edinburgh, United Kingdom. E-mail: mvendrel@staffmail.ed.ac.uk; Tel: +44 (0)131 242 6685. Webpage: www.dynafluors.co.uk*

**Abstract:** Fluorescent quinone-based BODIPY hybrids were synthesised and characterised by NMR analysis and mass spectrometry. We measured their cytotoxic activity against cancer and normal cell lines, performed mechanistic studies by lipid peroxidation and determination of reduced (GSH) and oxidized (GSSG) glutathione, and imaged their subcellular localisation by confocal microscopy. Cell imaging experiments indicated that nor- $\beta$ -lapachone-based BODIPY derivatives might preferentially localise in the lysosomes of cancer cells. These results assert the potential of hybrid quinone-BODIPY derivatives as promising prototypes in the search of new potent lapachone antitumor drugs.

**Keywords:** Quinone; BODIPY; Lapachone; Cancer; Subcellular localization.

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