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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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FCR1

FRET ratiometric fluorescence-based redox sensor
Catalog No. SIH-180

Discovery through partnership | Excellence through quality

Overview

Product Name

FCR1

Description

FRET ratiometric fluorescence-based redox sensor

Molecular Formula

CIIHIINIOI

Molecular Weight

639

Properties

Storage Temperature

-20ºC

Shipping Temperature

Blue Ice or 4ºC

Product Type

Redox Probe

Solubility

Soluble in DMSO

Source

Synthetic

Appearance

Orange Solid

Safety Phrases

Classification: Caution: Substance not yet fully tested.
Safety Phrases:
S22 - Do not breathe dust
S24/25 - Avoid contact with skin and eyes
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

Cite This Product

FCR1 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SIH-180)

Biological Description

Alternative Names

7-(Diethylamino)-N-((1r,4r)-4-(2-(10-ethyl-2,4-dioxo-4,10-dihydrobenzo[g]pteridin-3(2H)-yl)acetamido)cyclohexyl)-2-oxo-2H-chromene-3-carboxamide (FCR1)

Research Areas

Cancer, Oxidative Stress

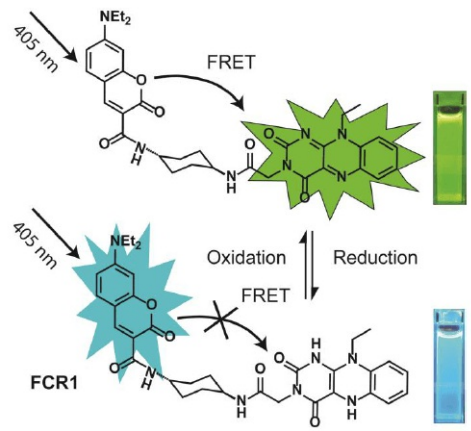
Scientific Background

FCR1 or flavin coumarin redox sensor 1, is a novel ratiometric fluorescent redox sensor utilized in fluorescence lifetime imaging microscopy and flow cytometry. In the oxidized form, excitation of FCR1 at 405nm results in a green fluorescence with max emissions at 525nm. Treatment with a mild reducing agent (including sodium cyanoborohydride, DTT, and glutathione) reduces the flavin thereby decreasing the green fluorescence intensity, and increasing the blue. Re-oxidation can be achieved using mild oxidizing agents. In general, the FCR1 probe can be used to observe changes in oxidative capacity without interference from background effects.

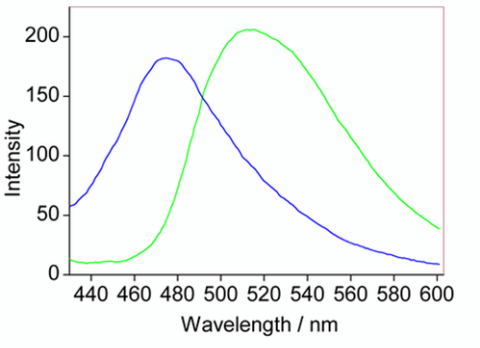
References

1. Kaur A., Haghighatbin M.A., Hogan C.F., and New E.J. (2015) Chem. Commun. Epub.

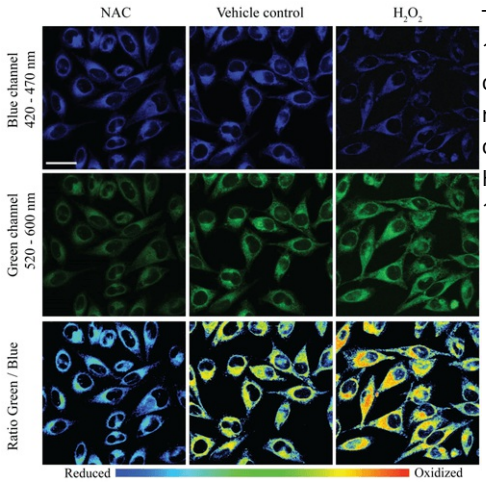
Product Images



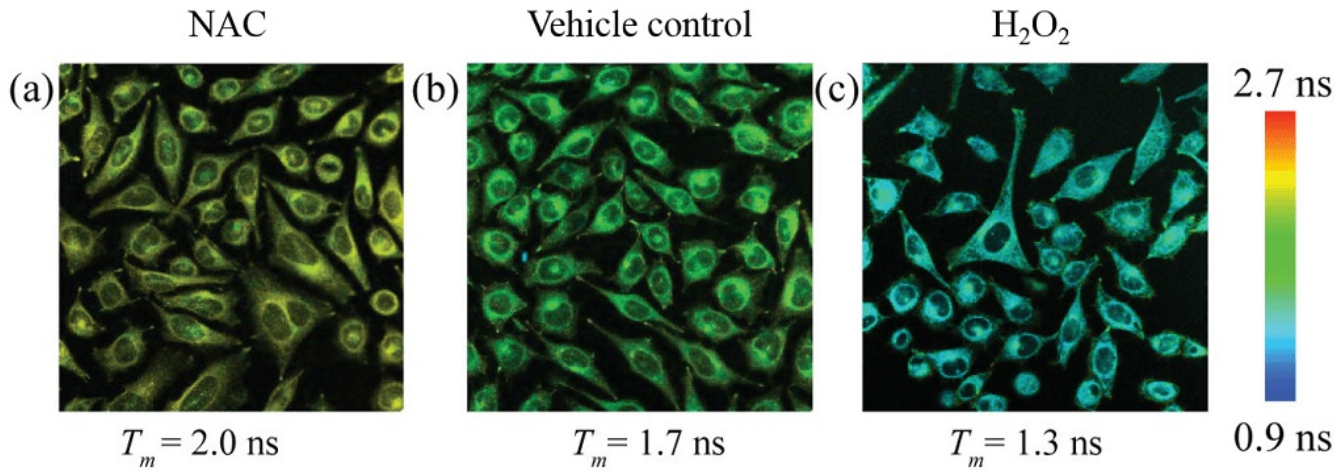
Chemical structure and design of FCR1 (SIH-180), showing FRET processes in oxidised form. Inset: photographs of cuvettes of FCR1 in oxidised and reduced forms under 365 nm excitation. Images used with permission from Kaur A, Haghighatbin MA, Hogan CF, New EJ. Chem Commun (Camb). 2015 Jun 16;51(52):10510-3.



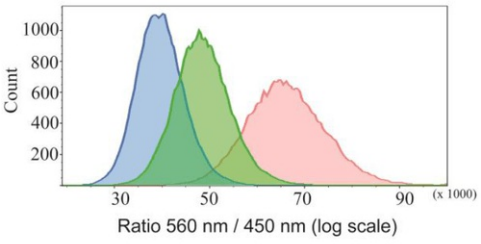
Fluorescence behavior of FCR1 (SIH-180) in the oxidized (green) and reduced (blue) forms, using 10 µM. Excitation: 405 nm. Reduced Emission: 475 nm. Oxidized Emission: 520 nm. Images used with permission from Kaur A, Haghighatbin MA, Hogan CF, New EJ. Chem Commun (Camb). 2015 Jun 16;51(52):10510-3.



Two photon – confocal microscopy imaging of HeLa cells treated with FCR1 (SIH-180, 10 ?M, 15 min, ?ex = 820 nm) and (a) N-acetyl cysteine (50 ?M, 30 min), (b) vehicle control and (c) H2O2 (50 ?M, 30 min) in blue and green channels. The pseudo colour ratio images indicate the ratio of emission intensity in the green channel to blue channel. Scale bar represents 20 ?m. Images used with permission from Kaur A, Haghighatbin MA, Hogan CF, New EJ. Chem Commun (Camb). 2015 Jun 16;51(52):10510-3.



Fluorescence lifetimes of the donor (420 470 nm) in HeLa cells treated with FCR1 (SIH-180, 10 ?M, ?ex = 820 nm) and N-acetyl cysteine, vehicle control and H2O2. Pseudo-colour images represent mean lifetime. Scale bar represents 50 ?m. Images used with permission from Kaur A, Haghighatbin MA, Hogan CF, New EJ. Chem Commun (Camb). 2015 Jun 16;51(52):10510-3.



Flow cytometric studies of HeLa cells treated with FCR1 (SIH-180, 10 ?M, ?ex = 405 nm) showing the fluorescence ratio (560 / 450 nm) when treated with N-acetyl cysteine (blue), vehicle control (green) and H2O2 (red). Images used with permission from Kaur A, Haghighatbin MA, Hogan CF, New EJ. Chem Commun (Camb). 2015 Jun 16;51(52):10510-3.

Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.