

Fluorescein DPc10 Peptide

Quality Control Certificate of Analysis

Catalogue No.: A010-516

Unit Size: 200µg

Lot no.: 642049

Description

Fluorescein derivative of the DPc10 peptide.

DPc10 peptide is a 36-residue peptide corresponding to the Gly2460-Pro2495 region of rabbit RyR2. It interacts RyR2 and provokes abnormal channel activity usually seen in mutant RyR2 channels associated with CPVT. This peptide can be used to provoke pathological RYR2 behaviour in wild-type RYR2 channels. The peptide binds at an interface between domains of RyR2, “unzipping” these domains and altering channel function. The DPc10 binding site is preserved in RYR2 from all mammalian species.

DPc10 (0.5-5 µM) elevates Ca²⁺-leak, increases Ca²⁺-spark activity, is pro-arrhythmic, and provokes hypertrophy in cardiac myocytes.

DPc10 in the current form is not cell permeable. The product is useful in applications that permit access to RYR2 directly (via whole cell patch, skinned cells, black lipid membrane, vesicles, or upon delivery to cytoplasm).

Quantity supplied

200µg net peptide*

Peptide name

Fluorescein DPc10 Peptide

Peptide sequence

5Flu-GFCPDHKAAMVLFLDRVYGIEVQDFLLHLLEVGFLP

N-terminus

5 Carboxyfluorescein

C-terminus

Acid

Counter ions

Trifluoroacetate (TFA)

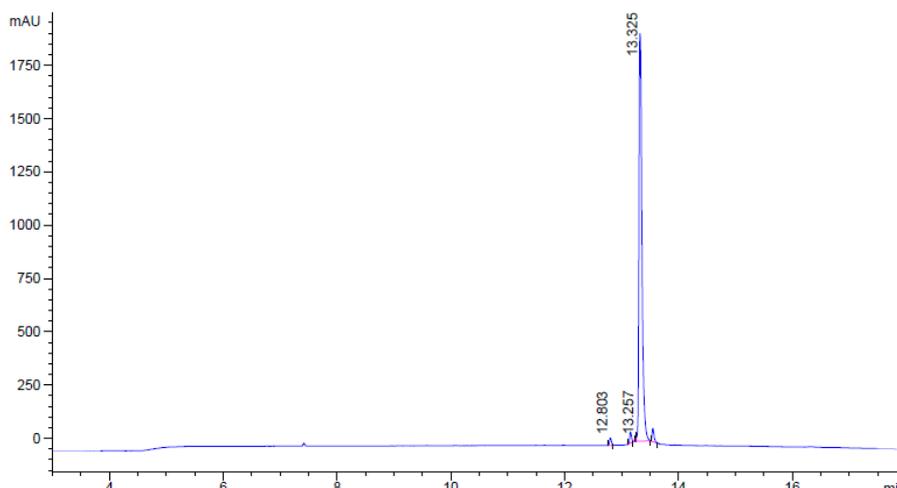
Molecular weight

4462.155

Purity

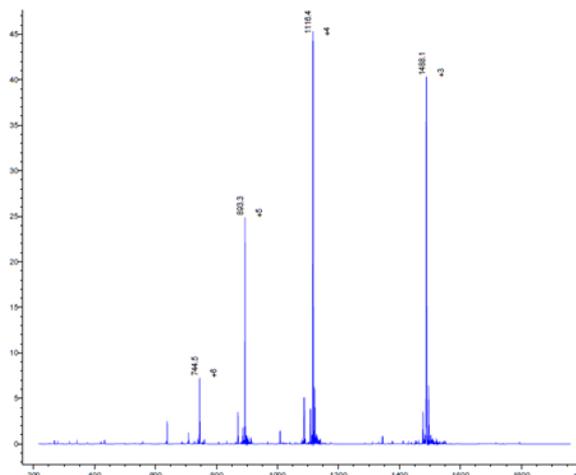
95%

HPLC analysis



Trace: HPLC Analysis of Fluorescein DPc10 Peptide. Analysis carried out using 100Å 4.6 x 150mm column, gradient from 10%-90% acetonitrile, in 15 minutes. Dissolved in DMSO. Purity determined as 95%.

MS analysis



Trace: Molecular ion predicted: 4462.155, observed: 4461.3 [M+3H]. The range of molecular ions observed is due to the various multiply charged forms of the peptide ([M+3H], [M+4H], etc.).

Appearance

Lyophilised yellow powdered solid

Solubilisation

Dimethyl sulfoxide (DMSO), use minimum volume to limit solvent concentration in experiments.

Storage

Store desiccated at -20°C for up to 1 year in solid form. Dissolve in DMSO immediately before use in experiments.

Notes

The product was purified in acetonitrile and water containing 0.1% trifluoroacetic acid (TFA) prior to lyophilisation. The product will therefore be present as its trifluoroacetic acid salt.

*Peptide is supplied by net peptide weight. Whilst the purity of the material has been shown to be >95%, the net peptide content (NPC) is lower due to counterions and residual water molecules present in the material after purification. To compensate for this, the amount of peptide weighed out is adjusted so that the weight of active material received is exactly as stated on the vial. This means that the total mass supplied will be in excess of 200µg, but there will be exactly 200µg of the active peptide component in the vial.

The DPc10 peptide range

1. DPc10 Peptide (Cat. A010-514)
2. DPc10 Inactive Peptide (Cat. A010-515)
3. Fluorescein DPc10 Peptide (Cat. A010-516)
4. Fluorescein DPc10 Inactive Peptide (Cat. A010-517)