abcam

Product datasheet

Alprenolol Fluorescent ligand (Red) ab118167

1 Image

Overview

Product name	Alprenolol Fluorescent ligand (Red)
Description	Fluorescent β_2 adrenoceptor antagonist
Biological description	Fluorescent ß$_2$ antagonist (pK_D values are 7.50, 8.91 and 7.09 at ß$_1$, ß$_2$ and ß$_3$ respectively). Wide range of applications which include localizing receptor distribution in tissues and cells, and live-cell imaging of receptor kinetics. Antagonises the activity of ß$_1$, ß$_2$ and ß$_3$ agonists in vitro. Excitation wavelength: 633 nm Emission wavelength: 650 nm
Purity	> 97%

Properties

Pharmacophore	(±)-Alprenolol-derivative
Selectivity	β_1: 7.50 | β_2: 8.91 | β_3: 7.09
Excitation	633nm
Emission	650nm
Molecular weight	884.00
Molecular formula	$C_{47}H_{56}BF_2N_5O_7S$
Validation notes	The affinity of the ab118167 at β_1, β_2 and β_3 adrenoceptors was determined in a whole cell radioligand binding assay using [^{3}H]-CGP12177 as the radioligand. ab118167 was shown to antagonize the activity of the non-selective β agonist, isoprenaline, in three separate recombinant CHO cell lines expressing either the Human β_1, β_2 or β_3 receptor and a cyclic AMP-responsive secreted placental alkaline phosphatase (SPAP) reporter gene. The cyclic AMP-induced expression of SPAP was measured under basal and forskolin-stimulated conditions. To determine the K_D for ab118167 at β_1, β_2 and β_3 receptors, cells were treated with isoprenaline alone, or in the presence of ab118167 and the cyclic AMP-induced expression of SPAP measured. The K_D was calculated from the rightward shift in the curve.
Storage instructions	Store at -20°C. Avoid exposure to light.
Handling	For imaging at β_1 / β_2 / β_3 adrenoceptors use solutions up to 100 nM in DMSO.

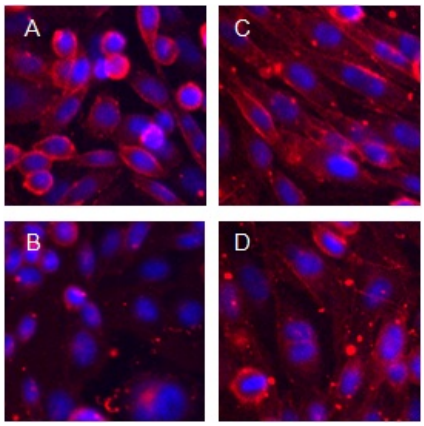
Applications

The Abpromise guarantee Our Abpromise guarantee covers the use of ab118167 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Small Molecule Fluorescent Optical Detection		Use at an assay dependent concentration.
Receptor Localization		Use at an assay dependent concentration.
Fluorescent Cell Imaging		Use at an assay dependent concentration.

Images



Fluorescent Cell Imaging - Alprenolol Fluorescent ligand (Red) (ab118167)

ab118167 ligand binding and displacement.

Top (A,C): ab118167 ligand (100 nm) binding to two different live cell lines expressing β_1 (A) or β_2 (C) adrenoceptors.

Bottom (B, D): Binding blocked in the same cell lines β_1 (B) or β_2 (D) by the unlabelled competitor ICI118551 (1 µM).

Nuclei have been counter-stained with Hoechst.

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