

**MULTISCREEN™ STABLE CELL LINE**  
**HUMAN RECOMBINANT  $\alpha$ 1a ADRENERGIC RECEPTOR**

**Data sheet**

**PRODUCT INFORMATION**

**Catalog Number:** C1431-1a

**Lot Number:** C1432-1a-042814

**Quantity:** 1 vial ( $2 \times 10^6$ ) frozen cells

**Freeze Medium:** Sigma Freezing Medium (C-6164)

**Host cell:** CHO-K1

**Transfection:** Expression vector containing full-length human ADRA1A cDNA (GenBank accession number NM\_000680.2) with FLAG tag sequence at N-terminus

**Recommended Storage:** Liquid nitrogen upon receiving

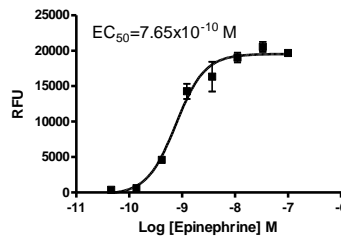
**Propagation Medium:** DMEM/F12, 10% FBS, 10  $\mu$ g/mL puromycin

**Stability:** Stable in culture for minimum of two months

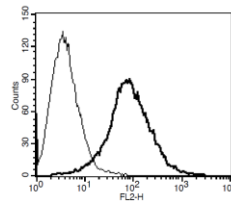
**Background:** Norepinephrine is implicated in a wide range of physiological processes through activation of nine different G-protein-coupled receptors ( $\alpha$ 1a,  $\alpha$ 1b,  $\alpha$ 1d,  $\alpha$ 2a,  $\alpha$ 2b,  $\alpha$ 2c,  $\beta$ 1,  $\beta$ 2,  $\beta$ 3). The  $\alpha$ 1a-adrenoceptor is highly expressed in human vasculature. As with the other  $\alpha$ 1-ARs,  $\alpha$ 1a is used by the sympathetic nervous system to regulate systemic arterial blood pressure and blood flow. The  $\alpha$ 1-ARs also play a major role in cardiac and vascular smooth muscle cells. The knockout mouse models lacking the  $\alpha$ 1a-adrenergic receptors have highlighted the potential implications of this receptor subtype in variety of functions including the regulation of renal artery contractions, smooth muscle contractions, and vasoconstriction.

**Application:** Functional assays

**Figure 1**



**Figure 2**



**Figure 1.** Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01).  
**Figure 2.** Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

**References:**

- Chalothorn et al. (2002) Differences in the cellular localization and agonist-mediated internalization properties of the  $\alpha$ 1-adrenoreceptor subtypes. *Mol Pharmacol* 61(5):1008-1016.
- Weinberg et al. (1994) Cloning, expression and characterization of human alpha adrenergic receptors alpha 1a, alpha 1b and alpha 1c. *Biochem. Biophys. Res. Commun.* 201:1296-1304.
- Hague et al. (2003)  $\alpha$ 1-Adrenergic receptor subtypes: non-identical triplets with different dancing partners? *Life Sciences* 74:411-418.

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