

MULTISCREEN™ STABLE CELL LINE
HUMAN RECOMBINANT α 1D ADRENERGIC RECEPTOR

PRODUCT INFORMATION

Catalog Number: C1433-1

Lot Number: C1433-1-083013

Quantity: 1 vial (2×10^6) frozen cells

Freeze Medium: 90% FBS, 10% DMSO

Host cell: CHO-K1

Transfection: Expression vector containing full-length human ADRA1D cDNA (GenBank accession number NM_000678.3) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM/F12, 10% FBS, 10 μ g/mL puromycin

Stability: Stable in culture for minimum of two months

Data sheet

Background: Norepinephrine is implicated in a wide range of physiological processes through activation of nine different G-protein-coupled receptors (α 1a, α 1b, α 1d, α 2a, α 2b, α 2c, β 1, β 2, β 3). The α 1D-adrenoceptor is found mainly intracellularly. As with the other α 1-ARs, α 1D is used by the sympathetic nervous system to regulate systemic arterial blood pressure and blood flow. The α 1-ARs also play a major role in mediating growth responses in cardiac and vascular smooth muscle cells. Studies have shown that the α 1D-adrenoceptor is responsible for regulating arterial blood pressure by vasoconstriction. Knockout mice lacking the α 1D gene maintained significantly lower basal systolic and mean arterial blood pressures, compared to wild type mice. Also, the contractile response of the aorta and the pressor response of isolated perfused mesenteric arterial beds to α 1-AR stimulation were reduced in mice lacking α 1D.

Application: Functional assays

Figure 1

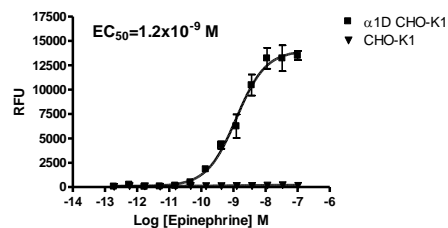


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01).

References:

Chalothorn *et al.* (2002) Differences in the cellular localization and agonist-mediated internalization properties of the α 1-adrenoreceptor subtypes. *Mol Pharmacol* 61(5):1008-1016.

Tanoue *et al.* (2002) The alpha(1D)-adrenergic receptor directly regulates arterial blood pressure via vasoconstriction. *J Clin Invest.* 109(6):765-775.

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.

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