

MULTISCREEN™ STABLE CELL LINE DOG RECOMBINANT V2 RECEPTOR

PRODUCT INFORMATION

Catalog Number: Cd1044-1

Lot Number: Cd1044-1-070814

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: CHO-K1

Transfection: Expression vector containing full-length dog V2 cDNA (GenBank Accession Number NM_001003177) 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: V2, a G protein coupled receptor, also called arginine vasopressin receptor 2 (AVPR2), is a receptor for neurohypophyseal peptide [Arg⁸]-vasopressin. It is expressed in the kidney tubule, mainly in the membrane of cells of the distal convoluted tubule and collecting ducts, in fetal lung tissue and lung cancer. In the kidney, V2 receptor responds to vasopressin and activates mechanisms that concentrate urine and maintain water homeostasis in the body. Loss of function of the V2 receptor results in nephrogenic diabetes insipidus. The primary transduction mechanism is via adenylate cyclase stimulation to raise intracellular cAMP levels. Selective antagonists for V2 can be used to treat hyponatremia.

Application: Functional assays

Figure 1

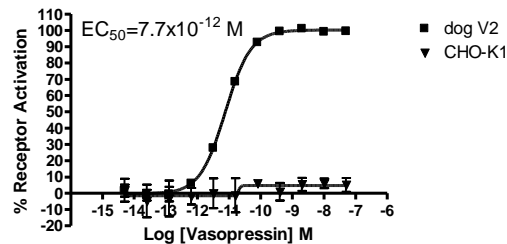


Figure 2

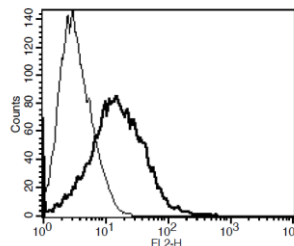


Figure 1. Dose-dependent increase of intracellular cAMP upon treatment with ligand, measured with Multiscreen™ TR-FRET cAMP 1.0 No Wash Assay Kit (Multispan MSCM01). **Figure 2.** Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

van den Ouweland AM, Dreesen JC, Verdijk M, Knoers NV, Monnens LA, Rocchi M, van Oost BA (1992). "Mutations in the vasopressin type 2 receptor gene (AVPR2) associated with nephrogenic diabetes insipidus". *Nature Genetics* 2(2):99-102.

Zmily HD, Daifallah S, Ghali JK (2011). "Tolvaptan, hyponatremia, and heart failure". *International Journal of Nephrology and Renovascular Disease* 4:57-71.

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