

**MULTISCREEN™ STABLE CELL LINE
HUMAN RECOMBINANT V1B RECEPTOR**

PRODUCT INFORMATION

Catalog Number: C1043-1

Lot Number: C1043-1-102411

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 human V1B cDNA (GenBank Accession Number NM_000707) 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: In progress

Data sheet

Background: V1B, a G protein coupled receptor, also called arginine vasopressin 1B (AVPR1B), is a receptor for neurohypophyseal peptide [Arg⁸]-vasopressin. V1B receptor was previously known as vasopressin 3 receptor or antidiuretic hormone receptor 1b. V1B has been shown to be expressed highly in the anterior pituitary gland, where it stimulates corticotrophin release, and also in low levels in the brain and adrenal glands. V1b receptor signals through phosphatidylinositol hydrolysis to mobilize intracellular Ca²⁺. A single nucleotide polymorphism in V1B receptor has been associated with susceptibility to depression in humans. Highly selective peptide and nonpeptide vasopressin receptor antagonists have been developed and pharmacological studies have provided evidence for its role in stress related behavior and disorders including anxiety disorders and depression, while deletion of the V1B gene in mice has been shown to greatly reduce aggression. In addition, knockout of V1B gene has shown reduction of vasopressin-stimulated insulin release from islet cells is mediated via V1b receptors.

Application: Functional assays

Figure 1

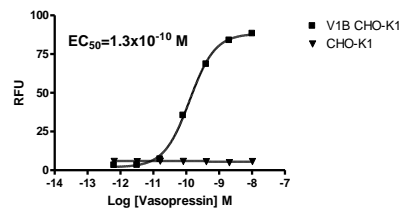


Figure 2

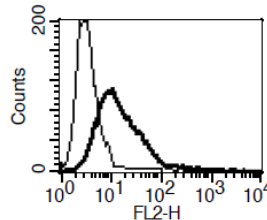


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01). **Figure 2.** Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick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

References:

- Antoni FA, Holmes MC, Makara GB, Kárteszi M, László FA (1984). "Evidence that the effects of arginine-8-vasopressin (AVP) on pituitary corticotropin (ACTH) release are mediated by a novel type of receptor". *Peptides* 5 (3): 519–22.
- Hernando F, Schoots O, Lolait SJ, Burbach JP (2001). "Immunohistochemical localization of the vasopressin V_{1b} receptor in the rat brain and pituitary gland: anatomical support for its involvement in the central effects of vasopressin". *Endocrinology* 142 (4): 1659–68.
- Wersinger SR, Ginns EI, O'Carroll AM, Lolait SJ, Young WS (2002). "AVPR1B knockout reduces aggressive behavior in male mice". *Mol. Psychiatry* 7 (9): 975–84.
- van West D, Del-Favero J, Aulchenko Y, Oswald P, Souery D, Forsgren T, Sluijs S, Bel-Kacem S, Adolfsson R, Mendlewicz J, Van Duijn C, Deboutte D, Van Broeckhoven C, Claes S (2004). "A major SNP haplotype of the arginine vasopressin 1B receptor protects against recurrent major depression". *Mol. Psychiatry* 9 (3): 287–92.

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