

human Opioid NOP (ORL1) Receptor

Product No.: 6110540400UA

Lot No.: 2668304

Material Provided

Membranes: 1 x 400 units / 400 μ L frozen aliquot

Product Information

Cellular Background: CHO-K1

GenBank Accession Number: NM_000913

Unit Size: 2 μ g protein / unit

Storage Buffer: 50 mM Tris-HCL (pH 7.4), 0.5mM EDTA, 10mM MgCl₂, 10% sucrose.

Storage Conditions: Store at -80°C. Freeze-thaw is not recommended as it can affect product performance and homogeneity. In order to minimize negative impact of freeze-thawing, flash freeze in liquid nitrogen for 30 seconds prior to transferring to -80°C.

Stability: This product is stable for at least 3 years from reception if used and stored under recommended conditions.

Quality Control

B_{max} and K_d are determined using radioactive saturation binding assays (Figure 1). Protein concentration is determined using the BCA method ⁽¹⁾. Ratio-to-Reference (RTR) is determined by dividing the maximal signal of the current lot (B_{max} in fmoles) by the maximal signal of a pre-defined reference tested in parallel. RTR is an indicator of lot-to-lot consistency. *We certify that these results meet our quality release criteria.

Ratio-to-Reference (RTR): 0.57

Expression Level (B_{max}): 4.1 pmol/mg membrane protein.

K_d for [¹²⁵I]-Nociceptin: 0.02 nM

Protein Concentration: 2 μ g/ μ L

(1) Smith, P.K., et al. (1985). *Anal. Biochem.* 150, 76-85.

Recommended Assay Conditions

Assay Buffer:	50 mM Tris-HCl pH 7.4, 10 mM MgCl ₂ , 1 mM EDTA , 0.1% BSA
Wash Buffer:	50 mM Tris-HCl pH 7.4
Binding Protocol:	Binding assays are performed in 200 μ L total volume according to the following conditions:
1 - Membrane dilution:	0.05 mL of membranes + 7.45 mL assay buffer (1:150 dilution)
2 - Incubation:	25 μ L of incubation buffer or Nociceptin (Bachem H-3036) 1 μ M final for non-specific binding (Saturation binding assay)
	<i>For competition binding assay: 25 μL of reference compounds at decreasing concentrations (see figure 2)</i>
	25 μ L of radioligand at the appropriate concentration (see graph below) 150 μ L of diluted membranes
3 - Incubation time:	60 minutes at 27 $^{\circ}$ C
4 - Filtration:	aspirate and wash 9 x 500 μ L with ice cold wash buffer over GF/C filter (presoaked in 50 mM Tris-HCl pH 7.4, 10 mM MgCl ₂ , 1 mM EDTA , 0.1% BSA, 0.3% PEI).

Lot Specific Data

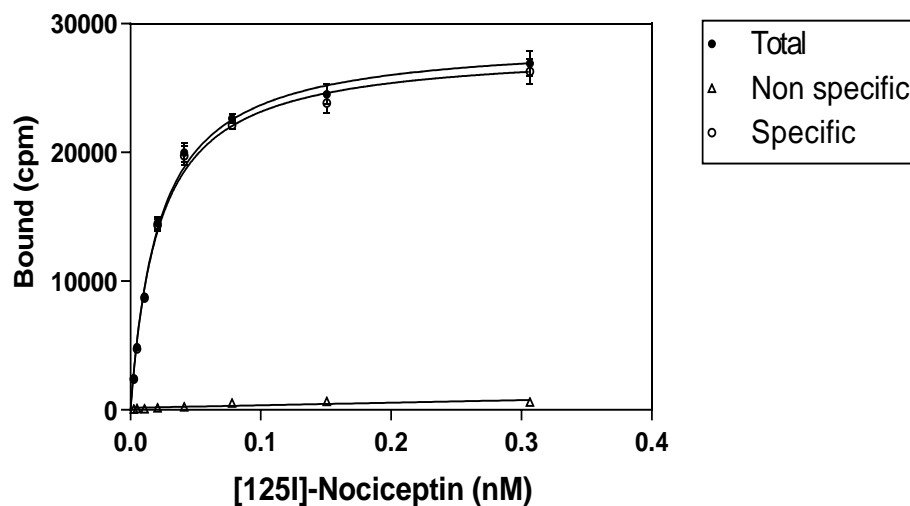


Figure 1: Saturation binding assay curve (filtration)
96-well saturation binding assay curve (2 μ g membranes/well, TopCount[®]) using [¹²⁵I]-Nociceptin (Revity NEX338 Lot No.: HV30600)

Typical Product Data

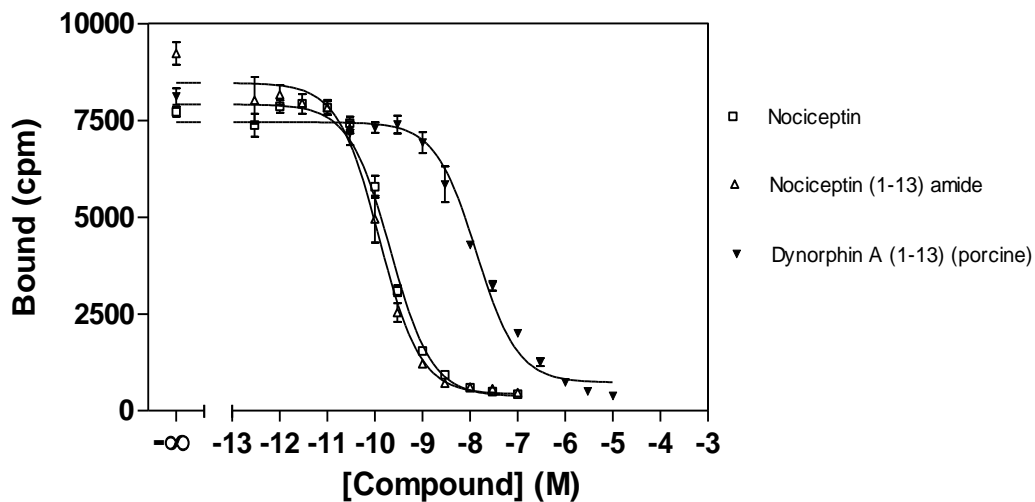


Figure 2: Competition binding assay curve (filtration)
 96-well competition binding assay curve (2 µg membranes/well, TopCount®). Recommended radioligand concentration = 0.03 nM.

*Even though two sites can be observed occasionally with some ligands, the data presented is derived from single site fitting.

Reference Compounds	Ki (nM)
Nociceptin	0.16
Nociceptin (1-13) amide	0.09
Dynorphin A (1-13) (porcine)	10.4

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