

Caution: For Laboratory Use. A research reagent for research purposes only

human Opioid mu Receptor

Product No.: ES-542-M400UA

Lot No.: 1936369

Material Provided

Membranes: 1 x 400 units / 400 µL frozen aliquot

Product Information

Cellular Background: CHO-K1

GenBank Accession Number: L29301

Unit Size: 5 µg 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): 0.8

Expression Level (B_{MAX}): 9.9 pmol/mg membrane protein.

K_D for [³H]-DAMGO : 0.2 nM

Protein Concentration: 5 µg/µL

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

Recommended Assay Conditions

Assay Buffer: 50 mM Tris-HCl pH 7.4, 5 mM MgCl₂

Wash Buffer: 50 mM Tris-HCl pH 7.4

Binding Protocol: Binding assays are performed in 550 μ L total volume according to the following conditions:

1 - Membrane dilution: 0.05 mL of membranes + 24.95 mL assay buffer (1:500 dilution)

2 - Incubation: 25 μ L of incubation buffer or DAMGO (Sigma E7384) 50 μ M final for non specific binding (Saturation binding assay)

For competition binding assay: 25 μ L of reference compounds at decreasing concentrations (see figure 2)

25 μ L of radioligand at the appropriate concentration (see graph below)
500 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/B filter (presoaked in 0.5 % BSA).

Lot Specific Data

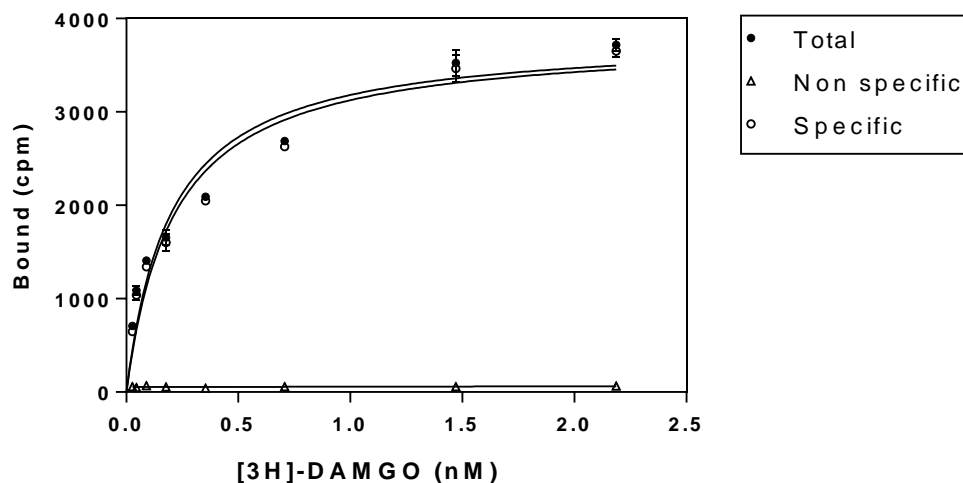


Figure 1: Saturation binding assay curve (filtration)

96-well saturation binding assay curve (5 μ g membranes/well, TopCount[®]) using [³H]-DAMGO (PerkinElmer NET902 Lot No.: 1884057)

Typical Product Data

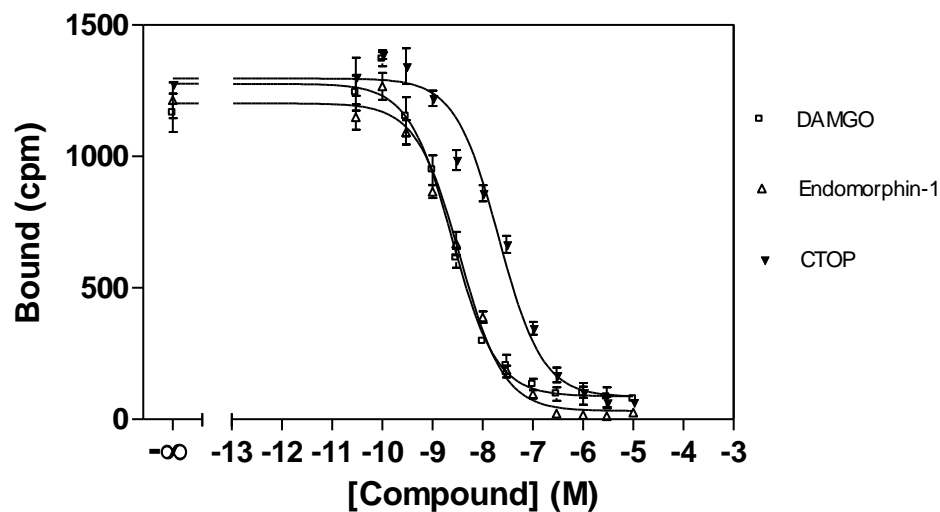


Figure 2: Competition binding assay curve (filtration)

96-well competition binding assay curve (5 μ g membranes/well, TopCount®). Recommended radioligand concentration = 0.75 nM.

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

Reference Compounds	K_i (nM)
DAMGO	1.0
Endomorphin-1	1.5
CTOP	8.7

Suggested Materials and Instrumentation

Please visit our website

www.perkinelmer.com/GPCR

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