

## GPCR Bioassay

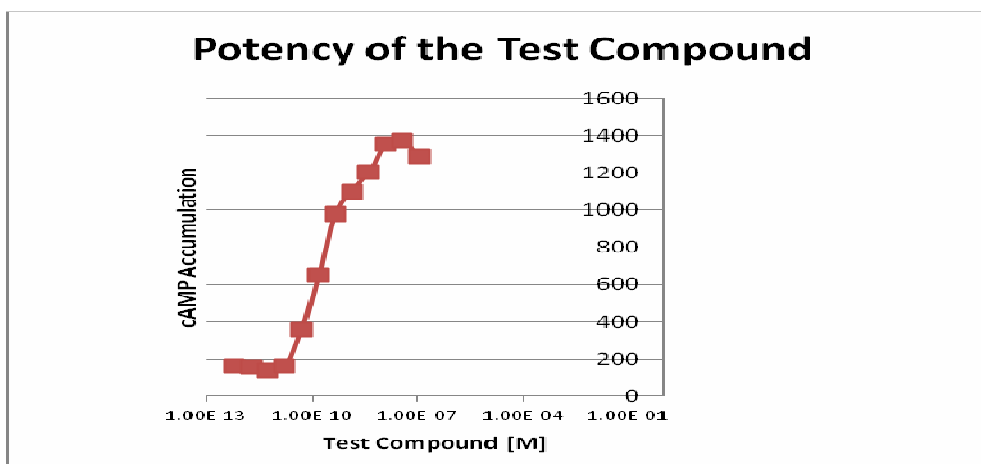
### PTH Induction of cAMP Production

G protein-coupled receptors (GPCRs) are a large protein family of receptors that sense molecules outside the cell and activate inside signal transduction pathways and cellular responses. There are two principal signal transduction pathways involving the G protein-coupled receptors: the cAMP signal pathway and the phosphatidylinositol signal pathway.

Parathyroid hormone (PTH) regulates calcium ion homeostasis and induces cAMP in the osteosarcoma UMR-106 cell line. UMR-106 cells are plated in a 96-well plate, incubated with PTH for 15 minutes, and tested for cAMP production using the cyclic AMP, screen direct kit from Applied Biosystems, cat # T1505, a chemiluminescent immunoassay system.

Potency of a Test Compound: The cAMP accumulation is shown as percentage of a no stimulation control. The  $EC_{50}$  was calculated at 0.21nM by a 4P logistic fit.

y axis as %control



Dynamic Range of the cAMP Standard Curve: RLU represents the Relative Luminescent Units  
Move the y axis to 0.001 pmol/well

### cAMP Standard Curve

