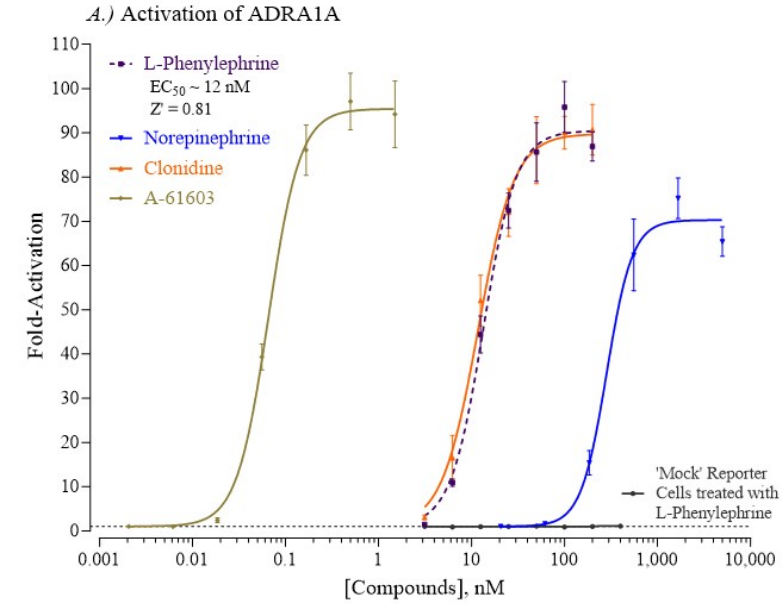
INDIGO Biosciences Releases a Family of Cell-Based Reporter Assays for the Adrenergic Receptors

New Assays Include ADRA1A, ADRA1B, ADRA1D, ADRB1, and ADRB2 for Preclinical Research of Heart Failure, Hypertension, Obesity, and Respiratory Conditions

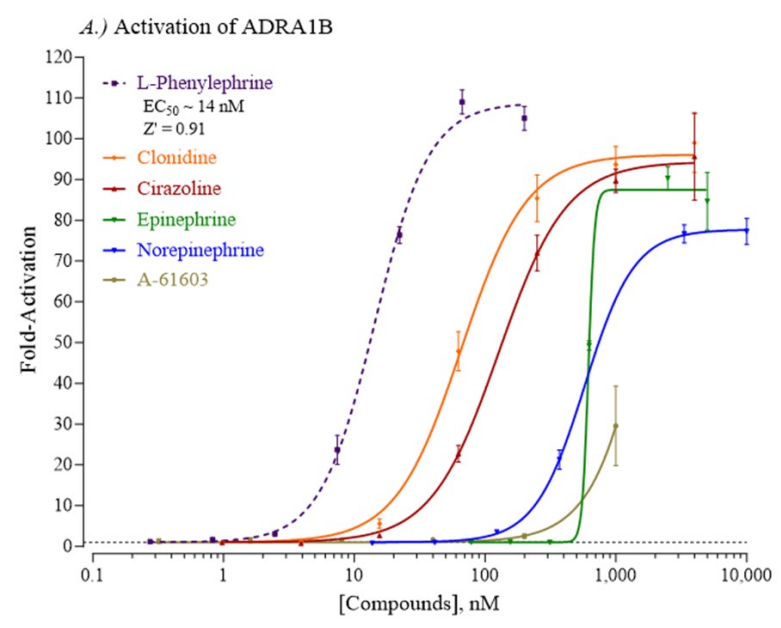
STATE COLLEGE, PA, USA, February 21, 2024 /EINPresswire.com/ -- INDIGO Biosciences announced today the release of new cell-based reporter assays for the family of Human Adrenergic Receptors, including ADRA1A, ADRA1B, ADRA1D, ADRB1, and ADRB2.

“INDIGO is very pleased to release this new family of robust, highly sensitive assays,” said INDIGO’s Chief Technology Officer, Bruce Sherf, Ph.D. “Since the Adrenoceptors are expressed in a variety of smooth tissues, they are integral in many physiological processes pertaining to the human sympathetic nervous response.”

Adrenergic receptors are a class of G protein-coupled receptors (GPCRs) that play a pivotal role in mediating the physiological effects of the sympathetic nervous system which is responsible for the “fight-or-flight” response. These receptors are integral components of

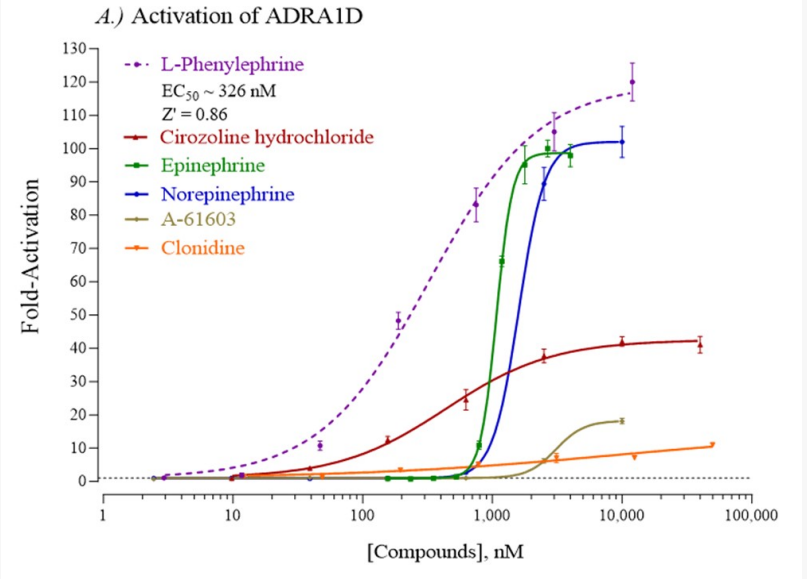


Activation of ADRA1A



Activation of ADRA1B

the human body's response to stress, regulating a multitude of functions ranging from heart rate to bronchodilation. The diverse roles of adrenergic receptors in health and disease make them attractive targets for researchers in drug discovery related to heart failure, hypertension, obesity, and respiratory conditions.



Activation of ADRA1D

ADRA1A plays an important role in the regulation of blood pressure and obesity. In addition, ADRA1A has a neuroprotective role and is of interest in the development of therapeutics for the treatment of neurological conditions such as Alzheimer's disease and dementia.

ADRA1B plays a role in blood pressure, obesity, male fertility, and cancer. In addition, ADRA1B is of interest in the development of therapeutics for the treatment of ocular vascular diseases.

ADRA1D is involved in cardiovascular, urinary, and central nervous system functions. Although ADRA1D is closely related to ADRA1A and ADRA1B, the precise physiological roles of ADRA1D have yet to be firmly established.

ADRB1 is predominantly found in the heart, kidney, and adipose tissue. However, its function is most often associated with the overall regulation of cardiac function. Receptor stimulation is known to be a primary control point for the change of heart rate.

ADRB2 is found in the lung smooth muscle cells and activation of the receptor leads to increasing airflow to the lungs. In addition, ADRB2 is found in the heart and is known to be a primary control point for the modulation of heart rate and myocardial contractility.

INDIGO's adrenergic receptor assay kits contain all materials needed to perform the assay, including cryopreserved optimized reporter cells, media for use in recovering the cryopreserved cells and for diluting test samples, reference compound, luciferase detection reagent, a cell culture-ready assay plate, and a detailed protocol. By providing all necessary assay reagents in one easy-to-use kit, INDIGO enables researchers to obtain high-quality data quickly. There is no need for researchers to procure individual components from multiple sources, painstakingly transfect and selectively propagate reporter cells, or optimize the assay.

What also sets INDIGO kits apart is their proprietary CryoMite™ cryo-preservation process, which

eliminates weeks of cell-culture work, allowing researchers to get reliable data quickly. This process allows scientists to immediately dispense healthy, division-competent reporter cells into the assay-ready plates. There is no need for cumbersome intermediate treatment steps such as spin and rinse of cells, viability determinations, or cell titer adjustments prior to assay setup. Simply thaw and plate the reporter cells, add test compounds and detection reagents, and obtain assay results in as little as 24 hours.

INDIGO's Human Adrenergic Receptor (ADRA1A, ADRA1B, ADRA1D, ADRB1, ADRB2) assays are available as all-inclusive kits in 96-well and 384-well assay formats. Bulk volumes of assay reagents are also available to accommodate high throughput screening applications. Alternatively, INDIGO performs these, and all its receptor assays, in its own lab as a convenient and economical service for researchers worldwide.

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