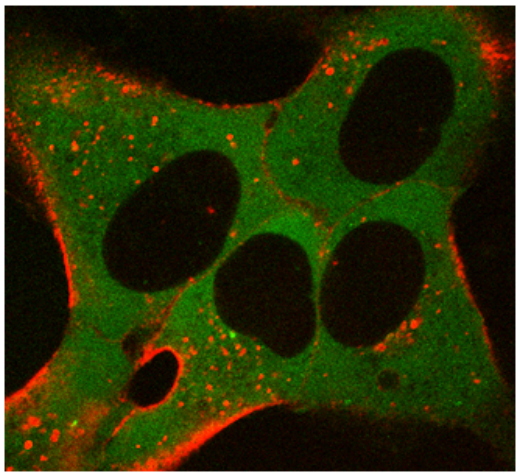
A screening library of more than 40 GPCR cell lines and/or corresponding plasmids for enabling addiction research

Duke LICENSING & VENTURES



Unmet Need

Addiction is a health concern costing the country in both dollars and human resources. The realization that addictive behavior is a consequence of signaling disorders in the brain, and thus reflects a disease process, provides a basis to expect that effective treatments are possible. The binding of drugs and transmitters to cell membrane receptors initiates signaling pathways responsible for important components of drug addiction and addictive behaviors. Small molecules, targeted to only a distinct receptor involved in addiction, will enable components of the many pathways resulting in addictive behavior to be untangled and provide a pharmacological rationale for designing novel therapies. There is a need for assays that enable scientists to identify lead compounds for treating addiction.

Technology

Inventors at Duke have generated a screening library of more than 40 GPCR cell lines and/or corresponding plasmids associated with addictive behaviors. This is intended to be used for enabling addiction treatment research. These materials can be used to create high content and low-to-high throughput assays to identify novel receptor ligands or for studying the basic biology of the individual receptors. All the cell lines and plasmids are available for licensing as a complete library, including the following:

Plasmids

Human Apelin Receptor (BC032688)

Human Cannabinoid Receptor 1 Enhanced (U73304)

Human Cannabinoid Receptor 2 (NM_001841)

Human Cholecyctokinin Receptor (AY322549)

Human Cholecyctokinin Receptor [HA Tagged] (AY322549)

Human Corticotropin Releasing Hormone Receptor 1 (AY457172)

Human Corticotropin Releasing Hormone Receptor 2

Duke File (IDF)

T-004169

Inventor(s)

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- Barak, Lawrence

Links

- From the lab of Dr. Marc Caron

College

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(AY449734)

Mouse Delta Opioid Receptor [HA Tagged] (BC_137969)

Human Dopamine Receptor 1A (AF498961)

Human Dopamine Receptor 1A [HA Tagged] (AF498961)

Human Dopamine Receptor 2 short (AF176812)

Human Dopamine Receptor 2 long [3HA Tagged] (NP000786)

Human Dopamine Receptor 3 Enhanced (U32499)

Human Dopamine Receptor 4 Enhanced [HA Tagged] (NM_000797)

Human Dopamine Receptor 5 (AY136750)

Human Dopamine Receptor 5 [HA Tagged] (AY136750)

Human Gabba-Aminobutyric Acid B Receptor 1 (BC042598)

Human Gabba-Aminobutyric Acid B Receptor 2 (BC035071)

Human Galanin Receptor 1 (AY541036)

Human Galanin Receptor 2 (BC074914)

Human Galanin Receptor 3 (AY587582)

Human Gastrin Receptor (AY322551)

Human Gastrin Receptor [HA Tagged] (AY322551)

Human GPR 35a Receptor [HA Tagged] (AF027957)

Human GPR55 Receptor Enhanced [HA Tagged] (NM_005683)

Human Growth Hormone Secretagogue Receptor 1a [HA Tagged] (AY429112)

Human Kappa Opioid Receptor (U17298)

Human Metabotropic Glutamate Receptor 2 (BC113619)

Human Metabotropic Glutamate Receptor 3 (BC022496)

Human Melanocortin Receptor 3 (AY227893)

Human Melanocortin Receptor 4 (AY236539)

Rat Mu Opioid Receptor 1 [HA Tagged] (AAA79180)

Human Muscarinic Acetylcholine Receptor 1 (P11229)

Human Muscarinic Acetylcholine Receptor 1 Enhanced (P11229)

Human Muscarinic Acetylcholine Receptor 4 (P08173)

Human Muscarinic Acetylcholine Receptor 4 Enhanced (P08173)

Human Muscarinic Acetylcholine Receptor 5 (P08912)

Human Muscarinic Acetylcholine Receptor 5 Enhanced

(P08912)

Human Neuropeptide Y1 Receptor (AY548168)

Human Neuropeptide Y1 Receptor [HA Tagged] (AY548168)

Human Neuropeptide Y5 Receptor (AY322538)

Human Neuropeptide Y5 Receptor [HA Tagged] (AY322538)

Human Neurotensin Receptor 1 (AY429106)

Human Neurotensin Receptor 1 [HA Tagged] (AY429106)

Human Neurotensin Receptor 2 (NM_012344.3)

Human Opiate Receptor-Like 1 (AY268428)

Human Opiate Receptor-Like 1 [HA Tagged] (AY268428)

Human Orexin Receptor 1 (AY062030)

Human Orexin Receptor 2 (BC035858)

Human Serotonin Receptor 1A (AF498978)

Human Serotonin Receptor 2A (AF498982)

Human Serotonin Receptor 1B (BC096207)

Human Serotonin Receptor 2B (AY136751)

Human Serotonin Receptor 2B [HA Tagged] (AY136751)

Human Tachykinin receptor 1 (AY462098)

Hamster Alpha1b Adrenergic Receptor (J04084)

Rat G Protein-Coupled Receptor 19 (BC089971)

Cell Lines

Group 1 – Brain and Gut Peptide Receptors:

Human Neurotensin Receptor 1 [HA-Tagged]

Human Neurotensin Receptor 2 [HA-Tagged]

Human Growth Hormone Secretagogue Receptor type 1a [HA-Tagged]

Human Tachykinin Receptor 1 (Substance P receptor)

Group 2 – Brain and Gut Peptide Receptors:

Human Orexin Receptor 1

Human Galanin Receptor 1

Human Gastrin Receptor (CCKB)

Human GPR35a Receptor [HA-Tagged]

Group 3 –Other Brain and Gut Peptide Receptors:

Human Corticotropin Releasing Hormone Receptor 1

Human Cholecyctokinin Receptor (CCKA)

Human Melanocortin Receptor 3

Human Melanocortin Receptor 4

Group 4 – Dopamine Receptors:

Human Dopamine Receptor 1AR

Human Dopamine Receptor 2 [short]

Human Dopamine Receptor 2 [long, 3HA-Tagged]

Human Dopamine Receptor 3 Enhanced

Human Dopamine Receptor 4 Enhanced

Human Dopamine Receptor 5

Group 5:

Human Muscarinic Acetylcholine Receptor 1 3 HA Enhanced

Human Muscarinic Acetylcholine Receptor 5

Group 6 – Opioid Receptors:

Human Delta Opioid Receptor

Human Kappa Opioid Receptor

Human Mu Opioid Receptor 1

Group 7 – Other Receptors:

Human Apelin Receptor (+mycoplasma)

Human Cannabinoid Receptor 2

Human GPR55 Receptor Enhanced [HA-Tagged]

Rat G Protein-Coupled Receptor 19 [HA-Tagged]