

# Cell-Based Assays 2020

Axxam offers **functional cell-based assays** for protein targets of relevance to drug discovery research, including challenging targets such as multi-subunit ion channels and current “hot” targets of interest. All assays are thoroughly QC-ed and validated for compound profiling and/or high throughput screening (HTS) applications in 384-microtiter plates.

We are continually developing new assays. If your target of interest is not listed in this catalogue, please feel free to enquire for availability.

## Key Features:

- ✓ High quality assays
  - optimal cell lines and detection systems
  - stable expression over time
  - validated using reference compounds
  - ion channel assays validated for patch clamp
- ✓ Available as “ready-to-go” to support your Hit Discovery Programs
- ✓ Expert technical support
- ✓ Assays details can be provided upon request

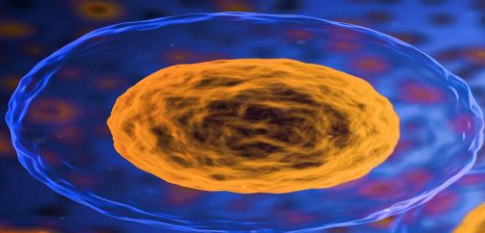
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## Custom Assay Development

Axxam undertakes custom assay development projects. Our highly experienced team has developed numerous cell-based assays using cutting-edge technologies, including difficult targets that other groups have found intractable.

- ✓ Wide range of cell types overexpressing the target of interest or optimizing assay protocols for endogenously expressed targets
- ✓ Different reporter genes and signal detection methods, to better adapt the assay to the final goal

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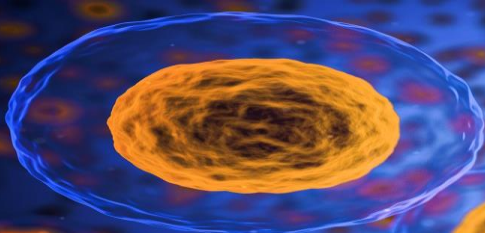


# Cell-Based Assays 2020

## Assay List

Target Class: GPCRs			
Sub-family	Symbol	Aliases / Other Designations	GeneID
Adenosine receptors	<b>ADORA1</b>	Adenosine A1 receptor	134
	<i>Adora1 (mouse)</i>	Mouse adenosine A1 receptor	11539
	<i>Adora2a (mouse)</i>	Mouse adenosine A2a receptor	11540
	<b>ADORA2B</b>	Adenosine A2b receptor	136
	<i>Adora2b (mouse)</i>	Mouse adenosine A2b receptor	11541
	<i>Adora2b (rat)</i>	Rat adenosine A2b receptor	29316
	<b>ADORA3</b>	Adenosine A3 receptor	140
	<i>Adora3 (mouse)</i>	Mouse adenosine A3 receptor	11542
Adrenergic receptors	<b>ADRA1A</b>	Adrenergic, alpha-1A-, receptor	148
	<b>ADRA2A</b>	Adrenergic, alpha-2A-, receptor	150
Bile acids receptors	<b>GPBAR1</b>	G-protein-coupled bile acid receptor 1	151306
Bradykinin receptors	<b>BDKRB1</b>	Bradykinin receptor B1	623
	<i>Bdkrb1</i>	Rat bradykinin receptor 1	81509
	<b>BDKRB2</b>	Bradykinin receptor B2	624
Cannabinoid receptors	<b>CNR1</b>	Cannabinoid receptor 1	1268
	<i>Cnr1 (rat) NEW!</i>	Rat cannabinoid receptor 1	25248
	<b>CNR2</b>	Cannabinoid receptor 2	1269
Chemokine (CXC) receptors	<b>CCR2</b>	Chemokine (C-C motif) receptor 2	1231
	<b>CCR3</b>	Chemokine (C-C motif) receptor 3	1232
	<b>CCR5</b>	Chemokine (C-C motif) receptor 5	1234
	<b>CXCR1</b>	Chemokine (C-X-C motif) receptor 1	3577
	<b>CXCR2</b>	Chemokine (C-X-C motif) receptor 2	3579
	<b>CMKLR1</b>	Chemerin chemokine-Like Receptor 1	1240
Cholinergic receptors	<b>CHRM2</b>	Cholinergic receptor, muscarinic 2	1129
Cholecystokinin receptors	<b>CCKAR</b>	Cholecystokinin A receptor	886
Class Frizzled (Class F) GPCRs	<b>SMO NEW!</b>	Smoothened receptor	20423
Complement component receptors	<b>C5aR1</b>	Complement component 5a receptor 1	728

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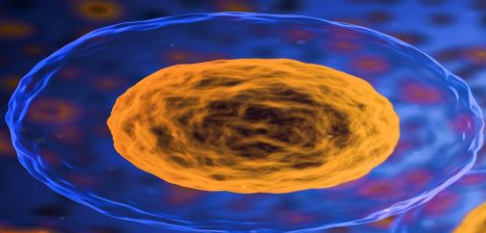


# Cell-Based Assays 2020

## Assay List

Target Class: GPCRs (continued)			
Sub-family	Symbol	Aliases / Other Designations	GeneID
Dopamine receptors	DRD2	Dopamine receptor D2	1813
	DRD3	Dopamine receptor D3	1814
Fatty acid receptors	GPR119	G-protein-coupled receptor 119	139760
	FFAR1	Free fatty acid receptor 1, GPR40	2864
	FFAR2	Free fatty acid receptor 2, GPR43	2867
	<b>Ffar4 (mouse) NEW!</b>	Mouse 5-hydroxytryptamine (serotonin) receptor 2A	107221
Formyl peptide receptors	FPR1	Formyl peptide receptor-1	2357
	FPR2	Formyl peptide receptor-2	2358
Galanin receptors	GALR2	Galanin Receptor 2	8811
Ghrelin	GHSR	Growth hormone secretagogue receptor	2693
Glucagon receptors	GCGR	Glucagon receptor	2642
	GLP1R	Glucagon-like peptide 1 receptor	2740
	Glp1r (rat)	Rat glucagon-like peptide 1 receptor	25051
Glutamate receptors	GRM1	Glutamate receptor metabotropic 1	2911
	<b>Grm2 (rat) NEW!</b>	Rat glutamate receptor, metabotropic 2	24415
Kynurenic acid receptors	GPR35	G-protein-coupled receptor 35	2859
Leukotriene receptors	LTB4R	Leukotriene B4 receptor	1241
Lysophosphatidic acid receptors	<b>LPAR1 NEW!</b>	Lysophosphatidic acid receptor 1	1902
	LPAR5	Lysophosphatidic acid receptor 5, GPR93	57121
Neuropeptide receptors	NPY-2R	Neuropeptide Y receptor 2	4887
Prokineticin receptors	PROKR1	Prokineticin receptor 1	10887
	PROKR2	Prokineticin receptor 2	128674
Prostanoid receptors	PTGDR2	GPR44, CRTH2, DP2, Prostaglandin D2 receptor	11251
Protease activated receptors	F2RL3	PAR4, Coagulation factor II (thrombin) receptor-like 3	9002
Sphingosine-1 phosphate	S1pr3 (mouse)	Mouse Sphingosine-1-phosphate receptor 3	13610

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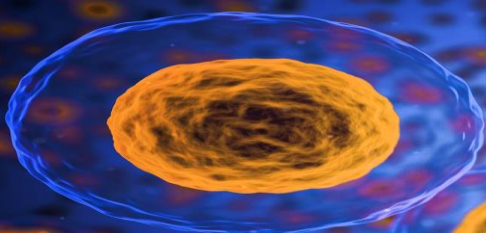
# Cell-Based Assays 2020

## Assay List

Target Class: <b>Ligand-Gated Ion Channels</b>			
Sub-family	Symbol	Aliases / Other Designations	GenelD
Ligand-gated cationic channels	<b>P2RX1</b>	Purinergic receptor P2X, ligand-gated ion channel 1	5023
	<b>P2rx1</b> ( <i>mouse</i> )	Mouse purinergic receptor P2X, ligand-gated ion channel 1	18436
	<b>P2RX2</b> <small>NEW!</small>	Purinergic receptor P2X, ligand-gated ion channel 2	22953
	<b>P2RX3</b>	Purinergic receptor P2X, ligand-gated ion channel 3	5024
	<b>P2rx3</b> ( <i>rat</i> )	Rat purinergic receptor P2X, ligand-gated ion channel 3	81739
	<b>P2RX4</b>	Purinergic receptor P2X, ligand-gated ion channel 4	5025
	<b>P2rx4</b> ( <i>mouse</i> )	Mouse purinergic receptor P2x ligand-gated ion channel 4	18438
	<b>P2rx4</b> ( <i>transient</i> ) ( <i>rat</i> ) <small>NEW!</small>	Rat Purinergic receptor P2X, ligand-gated ion channel 4	29659
	<b>P2RX2/P2RX3</b>	Heteromeric P2X2/P2X3 receptor	22953; 5024
	<b>P2RX2</b> ( <i>human</i> ) <b>/P2rx3</b> ( <i>rat</i> ) <small>NEW!</small>	Heteromeric P2X, human 2 and rat 3 receptor	22953; 5024
	<b>P2RX2/P2RX3</b> <small>NEW!</small>	Chimeric P2RX2/P2RX3 receptor	22953; 81739
Chloride channels	<b>GABRA1-GABRB1-GABRG2</b>	Gamma-aminobutyric acid (GABA) A receptor, alpha 1, beta 1, gamma 2	2554; 2560; 2566
	<b>GLRA1</b>	Glycine receptor, alpha 1	2741
Transient receptor potential channels	<b>TRPA1</b>	ANKTM1, Transient receptor potential cation channel subfamily A, member 1	8989
	<b>TRPC3</b>	Transient receptor potential cation channel, subfamily C, member 3	7222
	<b>TRPC5</b>	Transient receptor potential cation channel, subfamily C, member 5	7224
	<b>TRPC6</b>	Transient receptor potential cation channel, subfamily C, member 6	7225
	<b>TRPC7</b>	Transient receptor potential cation channel, subfamily C, member 7	57113
	<b>TRPM2</b>	Transient receptor potential cation channel, subfamily M, member 2	7226
	<b>TRPM5</b>	Transient receptor potential cation channel, subfamily M, member 5	29850
	<b>TRPM8</b>	Transient receptor potential cation channel, subfamily M, member 8	79054
	<b>TRPV1</b>	Transient receptor potential cation channel, subfamily V, member 1	7442
		<b>TRPV2</b> <small>NEW!</small>	Transient receptor potential cation channel, subfamily V, member 2

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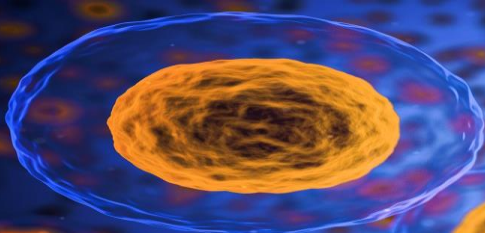


# Cell-Based Assays 2020

## Assay List

Target Class: Voltage-Gated Ion Channels			
Sub-family	Symbol	Aliases / Other Designations	GenID
Voltage-gated Ca <sup>2+</sup> channels	<b>CACNA1C</b> (Cav1.2)	Ca <sup>2+</sup> channel, voltage-dependent, L type, alpha 1C subunit	775
	<b>CACNA1D</b> (Cav1.3)	Ca <sup>2+</sup> channel, voltage-dependent, L type, alpha 1D subunit	776
	<b>CACNA1B</b> (Cav2.2) <i>endogenous</i>	Ca <sup>2+</sup> channel, voltage-dependent, N type, alpha 1B subunit	774
	<b>CACNA1I</b> (Cav3.3)	Ca <sup>2+</sup> channel, voltage-dependent, T type, alpha 1I subunit	8911
Voltage-gated K <sup>+</sup> channels	<b>KCNA5</b> (Kv1.5)	K <sup>+</sup> voltage-gated channel, Shaker-related subfamily A, member 5	3741
	<b>KCNB1</b> (Kv2.1)	K <sup>+</sup> voltage-gated channel, Shab-related subfamily B, member 1	3745
	<b>Kcnq4</b> (Kv7.4) <i>(mouse)</i>	Mouse K <sup>+</sup> voltage-gated channel subfamily Q, member 4	60613
Inwardly rectifying K <sup>+</sup> channels	<b>KCNJ4</b> (Kir2.3)	K <sup>+</sup> inwardly-rectifying channel, subfamily J, member 4	3761
	<b>KCNJ10</b> (Kir4.1) <b>NEW!</b>	K <sup>+</sup> inwardly-rectifying channel, subfamily J, member 10	3766
Voltage-gated Na <sup>+</sup> channels	<b>SCN5A</b> (Nav1.5)	Na <sup>+</sup> channel, voltage-gated, type V, alpha subunit	6331
	<b>SCN9A</b> (Nav1.7)	Na <sup>+</sup> channel, voltage-gated, type IX, alpha subunit	6335
Store-operated Ca <sup>2+</sup> channels	<b>CRAC</b>	ORAI1( calcium release-activated calcium modulator 1) + STIM-1 (stromal interaction molecule 1)	84876; 6786
Calcium-activated Cl <sup>-</sup> channels	<b>TMEM16A</b>	Trans-membrane protein 16A (Cl channel)	55107
K <sup>+</sup> /Na <sup>+</sup> hyperpolarization-activated CNG channels	<b>HCN2</b>	Hyperpolarization activated cyclic nucleotide-gated potassium channel 2	610
	<b>HCN4</b>	Hyperpolarization activated cyclic nucleotide-gated potassium channel 4	10021

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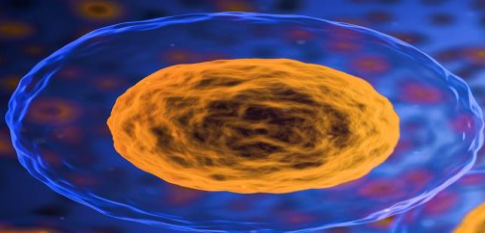


# Cell-Based Assays 2020

## Assay List

Target Class: <b>Transporters</b>			
Sub-family	Symbol	Aliases / Other Designations	GeneID
ATP binding cassette	<b>MRP1</b> <small>NEW!</small>	ATP-binding cassette, sub-family C, member 1	4363
	<b>MRP4</b> (ABCC4)	ATP-binding cassette, sub-family C (CFTR/MRP), member 4	10257
Glucose transporters	<b>Slc2a1</b> (GLUT1) ( <i>rat</i> )	Slc2a1 solute carrier family 2 (facilitated glucose transporter), member 1	24778
	<b>Slc2a2</b> (GLUT2) ( <i>rat</i> )	Slc2a2 solute carrier family 2 (facilitated glucose transporter), member 2	25351
	<b>Slc2a3</b> (GLUT3) ( <i>rat</i> )	Slc2a3 solute carrier family 2 (facilitated glucose transporter), member 3	25551
	<b>SLC2A1</b> (GLUT1) ( <i>canine</i> )	SLC2A1 solute carrier family 2 (facilitated glucose transporter), member 1	482437
	<b>SLC2A2</b> (GLUT2) ( <i>canine</i> )	SLC2A2 solute carrier family 2 (facilitated glucose transporter), member 2	488165
	<b>SLC2A3</b> (GLUT3) ( <i>canine</i> )	SLC2A2 solute carrier family 2 (facilitated glucose transporter), member 3	403997
Neurotransmitter transporters	<b>SLC6A3</b>	DAT, Dopamine transporter	6531
	<b>SLC6A1</b>	GAT1, GABA transporter 1	6529
	<b>SLC6A12</b> <small>NEW!</small>	BGT1/ GAT2, GABA transporter 1	6539
	<b>SLC6A11</b>	GAT3/ GAT4, GABA transporter 3	6538
	<b>SLC6A9</b>	GLYT1, Glycin transporter 1	6536
	<b>SLC6A5</b>	GLYT2, Glycin transporter 2	9152
	<b>SLC6A2</b>	NET, Norepinephrine transporter	6530
Sodium phosphate cotransporters	<b>SLC34A1</b> (NPT2a)	Solute carrier family 34 (sodium phosphate), member 1	6569
	<b>Slc34a1</b> (NPT2a) ( <i>rat</i> )	Solute carrier family 34 (sodium phosphate), member 1	25548
	<b>SLC34A1</b> (NPT2a) ( <i>canine</i> )	Solute carrier family 34 (sodium phosphate), member 1	479275
	<b>SLC34A2</b> (NPT2b)	Solute carrier family 34 (sodium phosphate), member 2	10568
	<b>SLC34A3</b> (NPT2c) ( <i>mutant human</i> )	Solute carrier family 34 (sodium phosphate), member 3	142680
	<b>Slc34a3</b> (NPT2c) ( <i>mutant rat</i> ) <small>NEW!</small>	Solute carrier family 34 (sodium phosphate), member 3	246234
-----	<b>SLC40A1</b> (FPN1)	Solute carrier family 40	30061

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# Cell-Based Assays 2020

## Assay List

### Target Class: Nuclear Hormone Receptors

Sub-family	Symbol	Aliases / Other Designations	GeneID
Nuclear hormone receptors	NR3C1	GR, Glucocorticoid receptor, nuclear receptor subfamily 3, group C, member 1	2908
	NR3C2	MR, mineralcorticoid receptor, nuclear receptor subfamily 3, group C, member 2	4306
	PPARA	PPAR-alpha, Peroxisome proliferator-activated receptor alpha	5465
	PPARG <sup>NEW!</sup>	PPAR-gamma, Peroxisome proliferator-activated receptor gamma	5468
	PGR	Progesteron receptor	5241

### Target Class: Enzymes

Sub-family	Symbol	Aliases / Other Designations	GeneID
Adenylate cyclases	ADCY5	Adenylate cyclase 5	111
	ADCY6	Adenylate cyclase 6	112
Nitric oxide synthases	NOS2	Inducible nitric oxide synthase (type II)	4843
	NOS3	Nitric oxide synthase 3 (endothelial cell)	4846

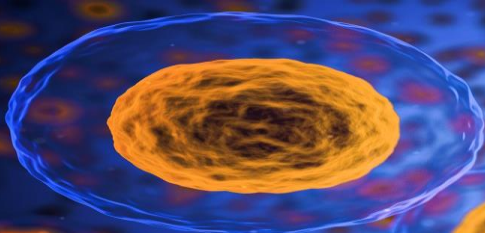
### Target Class: Cytokine Receptors

Sub-family	Symbol	Aliases / Other Designations	GeneID
Cytokine receptors	TNFR (endogenous)	Tumor necrosis factor alpha receptor	2006

### Target Class: Exchangers

Sub-family	Symbol	Aliases / Other Designations	GeneID
Na <sup>+</sup> /K <sup>+</sup> /Ca <sup>2+</sup> exchangers	SLC24A3 (NCKX3)	Solute carrier family 24 (sodium/potassium/calcium exchanger), member 3	57419
Na <sup>+</sup> /Ca <sup>2+</sup> exchangers	SLC8A1 (NCX1)	Solute carrier family 8 (sodium/calcium exchanger), member 1	6546
	SLC8A2 (NCX2)	Solute carrier family 8 (sodium/calcium exchanger), member 2	6543

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# Cell-Based Assays 2020

## Assay List

### Target Class: Toll-Like Receptors

Sub-family	Symbol	Aliases / Other Designations	GeneID
Toll-like receptor 4	<b>TLR4</b> (endogenous)	TOLL; CD284; hToll; ARMD10	7099
	<b>Tlr4</b> (endogenous) ( <i>mouse</i> )	Mouse toll-like receptor 4	21898

### Target Class: mRNA Post-Transcriptional Regulation

Sub-family	Symbol	Aliases / Other Designations	GeneID
mRNA post-transcriptional regulation	<b>NOS3</b>	Nitric oxide synthase 3 (endothelial cell)	4846

### Target Class: Tyrosine Kinase Receptors

Sub-family	Symbol	Aliases / Other Designations	GeneID
Tyrosine kinase receptor	<b>Ntrk1</b> (endogenous) ( <i>rat</i> )	Ntrk1 neurotrophic tyrosine kinase, receptor, type 1 ( <i>Rattus norvegicus</i> )	59109
	<b>NTRK2</b>	Neurotrophic tyrosine kinase, receptor, type 2	4915

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