

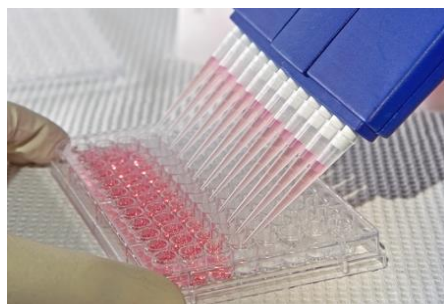


## Ready-to-go Assays 2016

Axxam S.p.A. (Italy) 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 QCed and validated for high throughput screening (HTS) applications using 96- and 384-well titer plates. We are continually developing new assays. If your target of interest is not listed in this catalogue please inquire for availability.

### Key Features

- Reliable, 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 off-the-shelf products or as part of contract research projects at Axxam
- Expert technical support
- Assays details can be provided upon request



Assay Portfolio (April 2017)		
Protein class	No. Assays	Page
GPCRs	46	2-3
Ion Channels	36	3-4
Transporters	18	5
NHRs	8	5-6
Exchangers	3	6
Toll-Like Receptors	3	6

### New Assays

- Cx3cr1 (mouse)
- P2rx1 (mouse)
- TRPM7
- KCNN4
- HCN2
- HCN4
- MRP4 (ABCC4)
- NPT2a
- NPT2a (rat)
- NPT2a (dog)
- NPT2b
- NPT2c (mutant)

### 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. Axxam’s proprietary technologies may help you to circumvent IP restrictions on your target of interest. Delivery time of a new assay in a 384-well plate-adapted format can be as little as 4 months.



## Assay List

Target Class: GPCRs			
Sub-family	Symbol	Aliases / Other Designations	GeneID
Adenosine receptors	ADORA1	Adenosine A1 receptor	134
	ADORA2A	Adenosine A2a receptor	135
Adrenergic receptors	ADRA2A	Adrenergic, alpha-2A-, receptor	150
	ADRA2C	Adrenergic, alpha-2C-, receptor	152
Bile acids receptors	GPBAR1	G protein coupled bile acid receptor 1 -TGR5	151306
Bradykinin receptors	BDKRB1	Bradykinin receptor B1	623
	Bdkrb1 (rat)	Rat bradykinin receptor 1	81509
	BDKRB2	Bradykinin receptor B2	624
Cannabinoid receptors	CNR1	Cannabinoid receptor 1	1268
	CNR2	Cannabinoid receptor 2	1269
Chemokine (CXC) receptors	CCR2	Chemokine (C-C motif) receptor 2	1231
	CCR3	Chemokine (C-C motif) receptor 3	1232
	CX3CR1	Chemokine (C-X3-C motif) receptor 1	1524
	Cx3cr1 (mouse) <b>NEW!</b>	Mouse chemokine (C-X3-C motif) receptor 1	13051
	Cx3cr1 (rat)	Rat chemokine (C-X3-C motif) receptor 1	171056
	CXCR1	Interleukin 8 receptor, alpha	3577
	CXCR2	Interleukin 8 receptor, beta	3579
	CXCR3	CXC chemokine receptor 3	2833
CMKLR1	Chemokine-Like Receptor 1 - ChemR23	1240	
Cholinergic receptors	CHRM2	Cholinergic receptor, muscarinic 2	1129
Colecystokinin receptors	CCKAR	Cholecystokinin A receptor	886
Complement component receptors	C5aR1	Complement component 5a receptor 1	728
Dopamine receptors	DRD1	Dopamine receptor D1	1812
	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
Formyl peptide receptors	FPRL1	FPRL1, formyl peptide receptor-like 1	2358
	FPR1	Formyl peptide receptor-1	2357

Please be aware that provision of the above listed assays may require third party licenses. All products are for research use only.

## Assay List

Target Class: <b>GPCRs</b> (continued)			
Sub-family	Symbol	Aliases / Other Designations	GeneID
Galanin receptors	<b>GALR2</b>	Galanin Receptor 2	8811
Ghrelin	<b>GHSR</b>	Growth hormone secretagogue receptor	2693
Glucagon receptors	<b>GCGR</b>	Glucagon receptor	2642
	<b>GLP1R</b>	Glucagon-like peptide 1 receptor	2740
	<b>Glp1r</b> (rat)	Rat glucagon-like peptide 1 receptor	25051
Kynurenic acid receptor	<b>GPR35</b>	G protein-coupled receptor 35	2859
Leukotriene receptors	<b>LTB4R</b>	Leukotriene B4 receptor	1241
Lysophosphatidic acid receptors	<b>LPAR5</b>	Lysophosphatidic acid receptor 5, GPR93	57121
Neuropeptides receptor	<b>NPY2R</b>	Neuropeptide Y receptor 2	4887
Opioid receptors	<b>OPRK1</b>	Opioid receptor, kappa 1	4986
Prokineticin receptors	<b>PROKR1</b> (GPR73)	Prokineticin receptor 1	10887
	<b>PROKR2</b> (GPR73L1)	Prokineticin receptor 2	128674
Prostanoid receptors	<b>PTGDR2</b>	GPR44, CRTH2, DP2, Prostaglandin D2 receptor	11251
Protease activated receptors	<b>F2RL3</b>	PAR4, Coagulation factor II (thrombin) receptor-like 3	9002
Serotonin receptor	<b>HTR2A</b>	Serotonin 5-HT-2A receptor	3356
Sphingosine-1 phosphate	<b>S1pr3</b> (mouse)	<i>Mus musculus</i> Sphingosine-1-phosphate receptor 3	13610

Target Class: <b>Ligand Gated Ion Channels</b>			
Sub-family	Symbol	Aliases / Other Designations	GeneID
Ligand gated cationic channels	<b>P2RX1</b>	Purinergic receptor P2X, ligand-gated ion channel, 1	5023
	<b>P2rx1</b> (mouse) <b>NEW!</b>	Mouse purinergic receptor P2X, ligand-gated ion channel, 1	18436
	<b>P2RX2/P2RX3</b>	Heteromeric P2X2/P2X3 receptor	22953 - 5024
	<b>P2RX3</b>	Purinergic receptor P2X, ligand-gated ion channel, 3	5024
	<b>P2rx3</b> (rat)	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> (mouse)	Mouse purinergic receptor P2x ligand-gated ion channel, 4	18438
	<b>P2RX7</b>	Purinergic receptor P2X, ligand-gated ion channel, 7	5027
	<b>P2rx7</b> (rat)	Rat purinergic receptor P2X, ligand-gated ion channel, 7	29665
	<b>P2rx7</b> (mouse)	Mouse purinergic receptor P2X, ligand-gated ion channel, 7	18439
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

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## Assay List

### Target Class: **Ligand Gated Ion Channels** (continued)

Sub-family	Symbol	Aliases / Other Designations	GeneID
Transient receptor potential channels	TRPA1	ANKTM1, Transient receptor potential cation channel subfamily A member 1	8989
	TRPC3	Transient receptor potential cation channel, subfamily C, member 3	7222
	TRPC5	Transient receptor potential cation channel, subfamily C, member 5	7224
	TRPC6	Transient receptor potential cation channel, subfamily C, member 6	7225
	TRPC7	Transient receptor potential cation channel, subfamily C, member 7	57113
	TRPM2	Transient receptor potential cation channel, subfamily M, member 2	7226
	TRPM5	Transient receptor potential cation channel, subfamily M, member 5	29850
	<b>TRPM7 NEW!</b>	Transient receptor potential cation channel, subfamily M, member 7	54822
	TRPM8	Transient receptor potential cation channel, subfamily M, member 8	79054
	TRPV1	Transient receptor potential cation channel, subfamily V, member 1	7442
	TRPV2	Transient receptor potential cation channel, subfamily V, member 2	51393

### Target Class: **Voltage-Gated Ion Channels**

Sub-family	Symbol	Aliases / Other Designations	GeneID
Voltage gated Na <sup>+</sup> channels	SCN9A (Nav1.7)	Na <sup>+</sup> channel, voltage-gated, type IX, alpha subunit	6335
Voltage gated K <sup>+</sup> channels	KCNA3 (Kv1.3)	K <sup>+</sup> voltage-gated channel, Shaker-related subfamily A, member 3	3738
	KCNA5 (Kv1.5)	K <sup>+</sup> voltage-gated channel, Shaker-related subfamily A, member 5	3741
	KCNB1 (Kv2.1)	K <sup>+</sup> voltage-gated channel, Shab-related subfamily B, member 1	3745
Inwardly rectifying K <sup>+</sup> channels	KCNJ4 (Kir 2.3)	K <sup>+</sup> inwardly-rectifying channel, subfamily J, member 4	3761
Voltage gated Ca <sup>2+</sup> channels	CACNA1C (Cav 1.2)	Ca <sup>2+</sup> channel, voltage-dependent, L type, alpha 1C subunit	775
	CACNA1D (Cav1.3)	Ca <sup>2+</sup> channel, voltage-dependent, L type, alpha 1D subunit	776
Store-operated Ca <sup>2+</sup> channels	CRAC	ORAI1( calcium release-activated calcium modulator 1) + STIM-1 (stromal interaction molecule 1)	84876 - 6786
Calcium activated Cl <sup>-</sup> channels	TMEM16A	Trans-membrane protein 16A (Cl channel)	55107
Calcium activated K <sup>+</sup> channels	KCNN3	Potassium intermediate/small conductance calcium-activated channel, subfamily N, member 3	3782
	<b>KCNN4 NEW!</b>	Potassium channel, calcium activated intermediate/small conductance subfamily N alpha, member 4	3783
K <sup>+</sup> /Na <sup>+</sup> hyperpolarization-activated CNG channels	<b>HCN2 NEW!</b>	Hyperpolarization activated cyclic nucleotide-gated potassium channel 2	610
	<b>HCN4 NEW!</b>	Hyperpolarization activated cyclic nucleotide-gated potassium channel 4	10021

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## Assay List

Target Class: <b>Transporters</b>			
Sub-family	Symbol	Aliases / Other Designations	GenelD
ATP binding cassette	<b>MRP4</b> <small>NEW!</small> (ABCC4)	ATP-binding cassette, sub-family C (CFTR/MRP), member 4	10257
Glucose transporters	<b>Slc2a1</b> (GLUT1-rat)	Slc2a1 solute carrier family 2 (facilitated glucose transporter), member 1	24778
	<b>Slc2a2</b> (GLUT2-rat)	Slc2a2 solute carrier family 2 (facilitated glucose transporter), member 2	25351
	<b>Slc2a3</b> (GLUT3-rat)	Slc2a3 solute carrier family 2 (facilitated glucose transporter), member 3	25551
	<b>SLC2A1</b> (GLUT1-canine)	SLC2A1 solute carrier family 2 (facilitated glucose transporter), member 1	482437
	<b>SLC2A2</b> (GLUT2-canine)	SLC2A2 solute carrier family 2 (facilitated glucose transporter), member 2	488165
	<b>SLC2A3</b> (GLUT3-canine)	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>SLC6A11</b>	GAT3, 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> <small>NEW!</small> (NPT2a)	Solute carrier family 34 (sodium phosphate), member 1	6569
	<b>Slc34a1</b> <small>NEW!</small> (NPT2a rat)	Solute carrier family 34 (sodium phosphate), member 1	25548
	<b>SLC34A1</b> <small>NEW!</small> (NPT2a dog)	Solute carrier family 34 (sodium phosphate), member 1	479275
	<b>SLC34A2</b> <small>NEW!</small> (NPT2b)	Solute carrier family 34 (sodium phosphate), member 2	10568
	<b>SLC34A3</b> <small>NEW!</small> (NPT2c mutant)	Solute carrier family 34 (sodium phosphate), member 3	142680

Target Class: <b>Nuclear Hormone Receptors</b>			
Sub-family	Symbol	Aliases / Other Designations	GenelD
Nuclear hormone receptors	<b>NR3C1</b>	GR, Glucocorticoid receptor, nuclear receptor subfamily 3, group C, member 1	2908
	<b>NR3C2</b>	MR, mineralcorticoid receptor, nuclear receptor subfamily 3, group C, member 2	4306
	<b>PPARA</b>	PPAR-alpha, Peroxisome proliferator-activated receptor alpha	5465
	<b>PPARD</b>	PPAR-delta, Peroxisome proliferator-activated receptor delta	5467
	<b>PPARG</b>	PPAR-gamma, Peroxisome proliferator-activated receptor gamma	5468

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## Assay List

Target Class: <b>Nuclear Hormone Receptors</b> (continued)			
Sub-family	Symbol	Aliases / Other Designations	GeneID
Nuclear hormone receptors	<b>PGR</b>	Progesteron receptor	5241
	<b>FXR</b>	Nuclear receptor subfamily 1, group H, member 4	9971
	<b>PXR</b>	Pregnane X receptor	8856

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

Target Class: <b>Toll-Like Receptors</b>			
Sub-family	Symbol	Aliases / Other Designations	GeneID
Toll-like receptor 4	<b>TLR4</b> (endogenous)	TOLL; CD284; hToll; ARMD10	7099
	<b>Tlr4</b> (mouse-endogenous)	Mouse toll-like receptor 4	21898
Toll-like receptor 9	<b>TLR9</b>	CD289	54106

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