Supporting Information

Optimization of Potent and Selective Quinazolinediones: Inhibitors of Respiratory Syncytial Virus That Block RNA-dependent RNA-polymerase Complex Activity

Daljit S. Matharu,[§] Daniel P. Flaherty,[§] Denise S. Simpson,[§] Chad E. Schroeder,[§] Donghoon Chung,[⊥] Dan Yan,[ϕ] James W. Noah,[‡] Colleen B. Jonsson,[⊥] E. Lucile White,[‡] Jeffrey Aubé,[§] Richard K. Plemper,[ϕ] William E. Severson,[⊥] and Jennifer E. Golden[§,*]

[§]University of Kansas Specialized Chemistry Center, University of Kansas, Lawrence, Kansas 66047, United States

[⊥]Center for Predictive Medicine for Biodefense and Emerging Infectious Diseases, University of Louisville, Louisville, Kentucky 40202, United States

[‡]Southern Research Specialized Biocontainment Screening Center, Southern Research Institute, Birmingham, Alabama 35205, United States

[ϕ]Institute for Biomedical Sciences, Georgia State University, Atlanta, GA 30303, United States

[*]Corresponding author

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Solubility assessment protocol

Compound solubility in aqueous solution was measured using an automated kinetic solubility method at the Sanford Burnham Medical Research Institute. The concentration of the compound in a saturated pH-buffered aqueous solution was determined by UV absorbance (250-498 nm) and compared to the spectra of a precipitation-free reference solution. Aqueous solubility was measured in phosphate buffered saline (PBS) at room temperature (23°C). PBS by definition is 137 mM NaCl, 2.7 mM KCl, 10 mM sodium phosphate dibasic, 2 mM potassium phosphate monobasic and a pH of 7.4. Solubility was also assessed in RSV CPE assay media (DMEM/F12(r) (Sigma, Cat # D6434)/ 1x Pen/Strep/Glutamine (Gibco, Cat # 10378) / 2% Heat Inactivated FBS (Gibco Cat # 10082)).

PanLabs (Ricerca) Hit LeadProfiling Screening Report fro compound **17** (see next page):

Profiling Results for Compound 17

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC_{50}*	K_i	n_H	R
Compound: 53301904, PT #: 1156014										
200510	Adenosine A_1	305599	hum	2	10 µM	4				
200610	Adenosine A_{2A}	305600	hum	2	10 µM	-3				
200720	Adenosine A_3	305602	hum	2	10 µM	44				
203100	Adrenergic α_{1A}	305613	rat	2	10 µM	22				
203200	Adrenergic α_{1B}	305614	rat	2	10 µM	4				
203400	Adrenergic α_{1D}	305615	hum	2	10 µM	14				
203620	Adrenergic α_{2A}	305616	hum	2	10 µM	16				
204010	Adrenergic β_1	305603	hum	2	10 µM	22				
204110	Adrenergic β_2	305604	hum	2	10 µM	1				
285010	Androgen (Testosterone) AR	305773	rat	2	10 µM	34				
212510	Bradykinin B_1	305625	hum	2	10 µM	3				
212620	Bradykinin B_2	305626	hum	2	10 µM	12				
214510	Calcium Channel L-Type, Benzothiazepine	305776	rat	2	10 µM	52				
214600	Calcium Channel L-Type, Dihydropyridine	305794	rat	2	10 µM	70				
216000	Calcium Channel N-Type	305795	rat	2	10 µM	0				
217030	Cannabinoid CB_1	305621	hum	2	10 µM	86				
219500	Dopamine D_1	305797	hum	2	10 µM	26				
219700	Dopamine D_{2S}	305798	hum	2	10 µM	9				
219800	Dopamine D_3	305799	hum	2	10 µM	19				
219900	Dopamine $D_{4.2}$	305800	hum	2	10 µM	5				
224010	Endothelin ET_A	305622	hum	2	10 µM	9				
224110	Endothelin ET_B	305623	hum	2	10 µM	-4				
225510	Epidermal Growth Factor (EGF)	305638	hum	2	10 µM	11				
226010	Estrogen ERα	305716	hum	2	10 µM	6				
226600	$GABA_A$, Flunitrazepam, Central	305802	rat	2	10 µM	-20				
226500	$GABA_A$, Muscimol, Central	305801	rat	2	10 µM	-4				
228610	$GABA_{B1A}$	305888	hum	2	10 µM	3				
232030	Glucocorticoid	305774	hum	2	10 µM	21				
232700	Glutamate, Kainate	305634	rat	2	10 µM	-3				
232810	Glutamate, NMDA, Agonism	305632	rat	2	10 µM	2				
232910	Glutamate, NMDA, Glycine	305635	rat	2	10 µM	10				
233000	Glutamate, NMDA, Phencyclidine	305803	rat	2	10 µM	-2				
239610	Histamine H_1	305804	hum	2	10 µM	11				
239710	Histamine H_2	305805	hum	2	10 µM	9				

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
R=See Remarks (if any) at end of this section.
ham=Hamster; hum=Human

Profiling Results for Compound 17

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC_{50}*	K_i	n_H	R
239820	Histamine H_3	305806	hum	2	10 µM	11				
241000	Imidazoline I_2, Central	305807	rat	2	10 µM	12				
243520	Interleukin IL-1	305639	mouse	2	10 µM	15				
250460	Leukotriene, Cysteinyl $CysLT_1$	305750	hum	2	10 µM	22				
251600	Melatonin MT_1	305752	hum	2	10 µM	26				
252610	Muscarinic M_1	305608	hum	2	10 µM	0				
252710	Muscarinic M_2	305609	hum	2	10 µM	4				
252810	Muscarinic M_3	305610	hum	2	10 µM	19				
257010	Neuropeptide Y Y_1	305636	hum	2	10 µM	13				
257110	Neuropeptide Y Y_2	305637	hum	2	10 µM	3				
258590	Nicotinic Acetylcholine	305811	hum	2	10 µM	-47				1
258700	Nicotinic Acetylcholine α, Bungarotoxin	305812	hum	2	10 µM	-2				
260130	Opiate δ_1 (OP1, DOP)	305631	hum	2	10 µM	13				
260210	Opiate κ(OP2, KOP)	305988	hum	2	10 µM	2				
260410	Opiate µ(OP3, MOP)	305815	hum	2	10 µM	27				
264500	Phorbol Ester	305816	mouse	2	10 µM	-1				
265010	Platelet Activating Factor (PAF)	305687	hum	2	10 µM	43				
265600	Potassium Channel [K_{ATP}]	305817	ham	2	10 µM	-2				
265900	Potassium Channel hERG	305818	hum	2	10 µM	26				
268420	Prostanoid EP_4	305819	hum	2	10 µM	25				
268700	Purinergic P_{2X}	305713	rabbit	2	10 µM	2				
268810	Purinergic P_{2Y}	305714	rat	2	10 µM	5				
270000	Rolipram	305820	rat	2	10 µM	23				
271110	Serotonin (5-Hydroxytryptamine) 5-HT_{1A}	305821	hum	2	10 µM	-12				
271700	Serotonin (5-Hydroxytryptamine) 5-HT_{2B}	305822	hum	2	10 µM	54				
271910	Serotonin (5-Hydroxytryptamine) 5-HT_3	305720	hum	2	10 µM	28				
278110	Sigma σ_1	305823	hum	2	10 µM	4				
255520	Tachykinin NK_1	305810	hum	2	10 µM	-11				
285900	Thyroid Hormone	305624	rat	2	10 µM	29				
220320	Transporter, Dopamine (DAT)	305619	hum	2	10 µM	27				
226400	Transporter, GABA	305882	rat	2	10 µM	2				
204410	Transporter, Norepinephrine (NET)	305618	hum	2	10 µM	54				
274030	Transporter, Serotonin (5-Hydroxytryptamine) (SERT)	305620	hum	2	10 µM	9				

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
R=See Remarks (if any) at end of this section.
ham=Hamster; hum=Human

200510 Adenosine A_1

Source:	Human recombinant CHO cells	**Ligand:**	1 nM [^{3}H] DPCPX
Vehicle:	1% DMSO	**Non-Specific Ligand:**	100 µM R(-)-PIA
Incubation Time/Temp:	90 minutes @ 25°C	**Specific Binding:**	85% *
Incubation Buffer:	20 mM HEPES, pH 7.4, 10 mM $MgCl_2$, 100 mM NaCl	**Quantiation Method:**	Radioligand Binding
Kd:	1.4 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	2.7 pmole/mg Protein *

200610 Adenosine A_{2A}

Source:	Human recombinant HEK-293 cells	**Ligand:**	0.05 µM [^{3}H] CGS-21680
Vehicle:	1% DMSO	**Non-Specific Ligand:**	50 µM NECA
Incubation Time/Temp:	90 minutes @ 25°C	**Specific Binding:**	85% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 10 mM $MgCl_2$, 1 mM EDTA, 2 U/mL Adenosine Deaminase	**Quantiation Method:**	Radioligand Binding
Kd:	0.064 µM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	7 pmole/mg Protein *

200720 Adenosine A_3

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.5 nM [^{125}I] AB-MECA
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM IB-MECA
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	83% *
Incubation Buffer:	25 mM HEPES, pH 7.4, 5 mM $MgCl_2$, 1 mM $CaCl_2$, 0.1% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	5.9 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1.8 pmole/mg Protein *

203100 Adrenergic α_{1A}

Source:	Wistar Rat submaxillary gland	**Ligand:**	0.25 nM [^{3}H] Prazosin
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Phentolamine
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 0.5 mM EDTA	**Quantiation Method:**	Radioligand Binding
Kd:	0.17 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.18 pmole/mg Protein *

* Historical Values

Profiling Methods:

203200 Adrenergic α_{1B}

Source:	Wistar Rat liver	**Ligand:**	0.25 nM [^{3}H] Prazosin
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Phentolamine
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 0. 5 mM EDTA	**Quantiation Method:**	Radioligand Binding
Kd:	0.31 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.18 pmole/mg Protein *

203400 Adrenergic α_{1D}

Source:	Human recombinant HEK-293 cells	**Ligand:**	0.6 nM [^{3}H] Prazosin
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Phentolamine
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	80% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	0.58 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.17 pmole/mg Protein *

203620 Adrenergic α_{2A}

Source:	Human recombinant insect Sf9 cells	**Ligand:**	1 nM [^{3}H] MK-912
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM WB-4101
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	95% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 12.5 mM $MgCl_2$, 2 mM EDTA	**Quantiation Method:**	Radioligand Binding
Kd:	0.6 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	4.6 pmole/mg Protein *

204010 Adrenergic β_1

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.03 nM [^{125}I] Cyanopindolol
Vehicle:	1% DMSO	**Non-Specific Ligand:**	100 µM S(-)-Propranolol
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	95% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 1.4 mM Ascorbic Acid, 0.001% BSA, 5 mM EDTA, 1.5 mM $CaCl_2$, 120 mM NaCl	**Quantiation Method:**	Radioligand Binding
Kd:	0.041 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.072 pmole/mg Protein *

* Historical Values

204110 Adrenergic β_2

Source:	Human recombinant CHO cells	**Ligand:**	0.2 nM [^{3}H] CGP-12177
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM ICI-118551
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	95% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 0.5 mM EDTA, 5.0 mM $MgCl_2$, 120 mM NaCl	**Quantiation Method:**	Radioligand Binding
Kd:	0.44 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.44 pmole/mg Protein *

285010 Androgen (Testosterone) AR

Source:	Rat recombinant E. coli	**Ligand:**	1.5 nM [^{3}H] Mibolerone
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Mibolerone
Incubation Time/Temp:	4 hours @ 4°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 0.8 M NaCl, 10% Glycerol, 2 mM Dithiothreitol, 0.1% BSA, 2% EtOH	**Quantiation Method:**	Radioligand Binding
Kd:	3 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	930 pmole/mg Protein *

212510 Bradykinin B_1

Source:	Human IMR-90 cells	**Ligand:**	0.5 nM [^{3}H] (Des-Arg^{10})-Kallidin
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM (Des-Arg^9, Leu^8)-Bradykinin
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	80% *
Incubation Buffer:	20 mM HEPES, pH 7.4, 125 mM N-Methyl-D-glucamine, 5 mM KCl, 1 mM 1,10-Phenanthroline, 140 µg/ml Bacitracin	**Quantiation Method:**	Radioligand Binding
Kd:	0.17 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.55 pmole/mg Protein *

212620 Bradykinin B_2

Source:	Human recombinant Chem-1 cells	**Ligand:**	0.5 nM [^{3}H] Bradykinin
Vehicle:	1% DMSO	**Non-Specific Ligand:**	5 µM Bradykinin
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM HEPES, pH 7.4, 0.2% BSA, 1 mM $CaCl_2$, 5 mM $MgCl_2$	**Quantiation Method:**	Radioligand Binding
Kd:	0.85 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	9.4 pmole/mg Protein *

* Historical Values

214510 Calcium Channel L-Type, Benzothiazepine

Source:	Wistar Rat brain	**Ligand:**	2 nM [^{3}H] Diltiazem
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Diltiazem
Incubation Time/Temp:	3 hours @ 4°C	**Specific Binding:**	73% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 0.1% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	0.016 µM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.21 pmole/mg Protein *

214600 Calcium Channel L-Type, Dihydropyridine

Source:	Wistar Rat cerebral cortex	**Ligand:**	0.1 nM [^{3}H] Nitrendipine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Nifedipine
Incubation Time/Temp:	90 minutes @ 25°C	**Specific Binding:**	91% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	0.18 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.23 pmole/mg Protein *

216000 Calcium Channel N-Type

Source:	Wistar Rat frontal brain	**Ligand:**	10 pM [^{125}I] ω-Conotoxin GVIA
Vehicle:	1% DMSO	**Non-Specific Ligand:**	0.1 µM ω-Conotoxin GVIA
Incubation Time/Temp:	30 minutes @ 4°C	**Specific Binding:**	96% *
Incubation Buffer:	20 mM Tris-HCl, pH 7.4, 0.5% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	0.051 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.88 pmole/mg Protein *

217030 Cannabinoid CB_1

Source:	Human recombinant Chem-1 cells	**Ligand:**	2 nM [^{3}H] SR141716A
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM R(+)-WIN-55,212-2
Incubation Time/Temp:	90 minutes @ 37°C	**Specific Binding:**	70% *
Incubation Buffer:	50 mM HEPES, pH 7.4, 5 mM $MgCl_2$, 1 mM $CaCl_2$, 0.2% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	5.9 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	15 pmole/mg Protein *

* Historical Values

219500 Dopamine D_1

Source:	Human recombinant CHO cells	**Ligand:**	1.4 nM [^{3}H] SCH-23390
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM (+)-Butaclamol
Incubation Time/Temp:	2 hours @ 37°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 1.4 mM Ascorbic Acid, 0.001% BSA, 150 mM NaCl	**Quantiation Method:**	Radioligand Binding
Kd:	1.4 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.63 pmole/mg Protein *

219700 Dopamine D_{2S}

Source:	Human recombinant CHO cells	**Ligand:**	0.16 nM [^{3}H] Spiperone
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Haloperidol
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 1.4 mM Ascorbic Acid, 0.001% BSA, 150 mM NaCl	**Quantiation Method:**	Radioligand Binding
Kd:	0.09 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1.6 pmole/mg Protein *

219800 Dopamine D_3

Source:	Human recombinant CHO cells	**Ligand:**	0.7 nM [^{3}H] Spiperone
Vehicle:	1% DMSO	**Non-Specific Ligand:**	25 µM S(-)-Sulpiride
Incubation Time/Temp:	2 hours @ 37°C	**Specific Binding:**	85% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 1.4 mM Ascorbic Acid, 0.001% BSA, 150 mM NaCl	**Quantiation Method:**	Radioligand Binding
Kd:	0.36 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1.1 pmole/mg Protein *

219900 Dopamine $D_{4.2}$

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.5 nM [^{3}H] Spiperone
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Haloperidol
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 1.4 mM Ascorbic Acid, 0.001% BSA, 150 mM NaCl	**Quantiation Method:**	Radioligand Binding
Kd:	0.32 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.55 pmole/mg Protein *

* Historical Values

224010 Endothelin ET_A

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.03 nM [^{125}I] Endothelin-1
Vehicle:	1% DMSO	**Non-Specific Ligand:**	0.1 µM Endothelin-1
Incubation Time/Temp:	2 hours @ 37°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 0.1% BSA, 0.5 mM $CaCl_2$, 0.05% Tween-20	**Quantiation Method:**	Radioligand Binding
Kd:	0.048 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.35 pmole/mg Protein *

224110 Endothelin ET_B

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.1 nM [^{125}I] Endothelin-1
Vehicle:	1% DMSO	**Non-Specific Ligand:**	0.1 µM Endothelin-1
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	75% *
Incubation Buffer:	50 mM HEPES, pH 7.4, 1 mM $CaCl_2$, 5 mM $MgCl_2$, 0.5% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	0.085 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	4.3 pmole/mg Protein *

225510 Epidermal Growth Factor (EGF)

Source:	Human A431 cells	**Ligand:**	0.08 nM [^{125}I] EGF (human)
Vehicle:	1% DMSO	**Non-Specific Ligand:**	0.1 µM EGF (human)
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM HEPES, pH 7.7, 0.1% BSA, 1.2 mM $CaCl_2$, 5 mM KCl, 1.2 mM $MgSO_4$, 138 mM NaCl	**Quantiation Method:**	Radioligand Binding
Kd:	0.17 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	5.5 pmole/mg Protein *

226010 Estrogen ERα

Source:	Human recombinant insect Sf9 cells	**Ligand:**	0.5 nM [^{3}H] Estradiol
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Diethylstilbestrol
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	85% *
Incubation Buffer:	10 mM Tris-HCl, pH 7.4, 0.1% BSA, 10% Glycerol, 1 mM DTT	**Quantiation Method:**	Radioligand Binding
Kd:	0.2 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1400 pmole/mg Protein *

* Historical Values

226600 $GABA_A$, Flunitrazepam, Central

Source:	Wistar Rat brain (minus cerebellum)	**Ligand:**	1 nM [^{3}H] Flunitrazepam
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Diazepam
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	91% *
Incubation Buffer:	50 mM Phosphate Buffer, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	4.4 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1.2 pmole/mg Protein *

226500 $GABA_A$, Muscimol, Central

Source:	Wistar Rat brain (minus cerebellum)	**Ligand:**	1 nM [^{3}H] Muscimol
Vehicle:	1% DMSO	**Non-Specific Ligand:**	0.1 µM Muscimol
Incubation Time/Temp:	10 minutes @ 4°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	3.8 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1.8 pmole/mg Protein *

228610 $GABA_{B1A}$

Source:	Human recombinant CHO cells	**Ligand:**	4 nM [^{3}H] CGP-54626
Vehicle:	1% DMSO	**Non-Specific Ligand:**	3 mM GABA
Incubation Time/Temp:	3 hours @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 2.5 mM $CaCl_2$, 0.1% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	3.3 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	48 pmole/mg Protein *

232030 Glucocorticoid

Source:	Human recombinant Insect cells	**Ligand:**	5 nM [^{3}H] Dexamethasone
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Dexamethasone
Incubation Time/Temp:	1 day @ 4°C	**Specific Binding:**	97% *
Incubation Buffer:	5 mM KH_2PO_4, 8 mM $Na_2HPO_4 \cdot 12H_2O$, pH7.4, 137 mM NaCl, 2.7 mM KCl, 0.2% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	4.6 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1 pmole/mg *

* Historical Values

232700 Glutamate, Kainate

Source:	Wistar Rat brain (minus cerebellum)	**Ligand:**	5 nM [^{3}H] Kainic acid
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 mM L-Glutamic acid
Incubation Time/Temp:	60 minutes @ 4°C	**Specific Binding:**	80% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	0.012 µM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.35 pmole/mg Protein *

232810 Glutamate, NMDA, Agonism

Source:	Wistar Rat cerebral cortex	**Ligand:**	2 nM [^{3}H] CGP-39653
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 mM L-Glutamic acid
Incubation Time/Temp:	20 minutes @ 4°C	**Specific Binding:**	70% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	0.019 µM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	2.3 pmole/mg Protein *

232910 Glutamate, NMDA, Glycine

Source:	Wistar Rat cerebral cortex	**Ligand:**	0.33 nM [^{3}H] MDL 105,519
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM MDL 105,519
Incubation Time/Temp:	30 minutes @ 4°C	**Specific Binding:**	85% *
Incubation Buffer:	50 mM HEPES, pH 7.7	**Quantiation Method:**	Radioligand Binding
Kd:	6 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	3.7 pmole/mg Protein *

233000 Glutamate, NMDA, Phencyclidine

Source:	Wistar Rat cerebral cortex	**Ligand:**	4 nM [^{3}H] TCP
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Dizocilpine ((+)-MK-801)
Incubation Time/Temp:	45 minutes @ 25°C	**Specific Binding:**	94% *
Incubation Buffer:	10 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	8.4 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.78 pmole/mg Protein *

* Historical Values

239610 Histamine H_1

Source:	Human recombinant CHO-K1 cells	**Ligand:**	1.2 nM [^{3}H] Pyrilamine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Pyrilamine
Incubation Time/Temp:	3 hours @ 25°C	**Specific Binding:**	94% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 2 mM $MgCl_2$, 100 mM NaCl, 250 mM Sucrose	**Quantiation Method:**	Radioligand Binding
Kd:	1.1 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	6.7 pmole/mg Protein *

239710 Histamine H_2

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.1 nM [^{125}I] Aminopotentidine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	3 µM Tiotidine
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Phosphate, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	0.45 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	6.9 pmole/mg Protein *

239820 Histamine H_3

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.4 nM [^{3}H] N-α-Methylhistamine (NAMH)
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM R(-)-α-Methylhistamine (RAMH)
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 5 mM $MgCl_2$, 0.1% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	0.38 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	2 pmole/mg Protein *

241000 Imidazoline I_2, Central

Source:	Wistar Rat cerebral cortex	**Ligand:**	2 nM [^{3}H] Idazoxan
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Idazoxan
Incubation Time/Temp:	30 minutes @ 25°C	**Specific Binding:**	85% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 0.5 mM EDTA	**Quantiation Method:**	Radioligand Binding
Kd:	4 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.14 pmole/mg Protein *

* Historical Values

243520 Interleukin IL-1

Source:	Mouse 3T3-SWISS cells	**Ligand:**	0.1 nM [^{125}I] Interleukin-1β
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Interleukin-1β
Incubation Time/Temp:	2 hours @ 37°C	**Specific Binding:**	80% *
Incubation Buffer:	RPMI 1640, 20 mM HEPES, pH 7.4, 0.1% Sodium Azide, 1% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	0.25 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	820 R/cell Protein *

250460 Leukotriene, Cysteinyl CysLT$_1$

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.3 nM [^{3}H] LTD$_4$
Vehicle:	1% DMSO	**Non-Specific Ligand:**	0.3 µM LTD$_4$
Incubation Time/Temp:	30 minutes @ 25°C	**Specific Binding:**	93% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 5 mM $CaCl_2$, 5 mM $MgCl_2$, 100 µg/ml Bacitracin, 1 mM Benzamidine, 0.1 mM PMSF	**Quantiation Method:**	Radioligand Binding
Kd:	0.21 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	3 pmole/mg Protein *

251600 Melatonin MT$_1$

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.05 nM [^{125}I] 2-Iodomelatonin
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM 6-Chloromelatonin
Incubation Time/Temp:	3 hours @ 25°C	**Specific Binding:**	97% *
Incubation Buffer:	25 mM HEPES, pH 7.4, 5 mM $MgCl_2$, 1 mM $CaCl_2$, 0.5% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	0.054 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	3.5 pmole/mg Protein *

252610 Muscarinic M$_1$

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.8 nM [^{3}H] N-Methylscopolamine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Atropine
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	95% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 10 mM $MgCl_2$, 1 mM EDTA	**Quantiation Method:**	Radioligand Binding
Kd:	0.26 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	2 pmole/mg Protein *

* Historical Values

252710 Muscarinic M_2

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.8 nM [^{3}H] N-Methylscopolamine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Atropine
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	95% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 10 mM $MgCl_2$, 1 mM EDTA	**Quantiation Method:**	Radioligand Binding
Kd:	0.58 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	5.1 pmole/mg Protein *

252810 Muscarinic M_3

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.8 nM [^{3}H] N-Methylscopolamine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Atropine
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	95% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 10 mM $MgCl_2$, 1 mM EDTA	**Quantiation Method:**	Radioligand Binding
Kd:	0.75 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	5.4 pmole/mg Protein *

257010 Neuropeptide Y Y_1

Source:	Human SK-N-MC cells	**Ligand:**	0.015 nM [^{125}I] Peptide YY
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Neuropeptide Y (human, rat)
Incubation Time/Temp:	60 minutes @ 37°C	**Specific Binding:**	80% *
Incubation Buffer:	25 mM HEPES, pH 7.4, 1 mM $MgCl_2$, 2.5 mM $CaCl_2$, 0.1% BSA, 0.01% Bacitracin	**Quantiation Method:**	Radioligand Binding
Kd:	0.24 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.58 pmole/mg protein *

257110 Neuropeptide Y Y_2

Source:	Human KAN-TS cells	**Ligand:**	10 pM [^{125}I] Peptide YY
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Neuropeptide Y (13-36) (porcine)
Incubation Time/Temp:	2 hours @ 37°C	**Specific Binding:**	90% *
Incubation Buffer:	25 mM HEPES, pH 7.4, 2.5 mM $CaCl_2$, 1 mM $MgCl_2$, 0.1% Bacitracin	**Quantiation Method:**	Radioligand Binding
Kd:	0.012 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.5 pmole/mg Protein *

* Historical Values

258590 Nicotinic Acetylcholine

Source:	Human IMR-32 cells	**Ligand:**	0.1 nM [^{125}I] Epibatidine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	300 µM (-)-Nicotine
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	97% *
Incubation Buffer:	20 mM HEPES, pH 7.5, 150 mM NaCl, 1.5 mM KCl, 2 mM $CaCl_2$, 1 mM $MgSO_4$.	**Quantiation Method:**	Radioligand Binding
Kd:	0.22 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.46 pmole/mg Protein *

258700 Nicotinic Acetylcholine α, Bungarotoxin

Source:	Human RD cells	**Ligand:**	0.6 nM [^{125}I] α-Bungarotoxin
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM α-Bungarotoxin
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	85% *
Incubation Buffer:	150 mM NaCl, 4 mM KCl, 2.3 mM $CaCl_2$	**Quantiation Method:**	Radioligand Binding
Kd:	1.1 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1 pmole/mg Protein *

260130 Opiate δ_1 (OP1, DOP)

Source:	Human recombinant HEK-293 cells	**Ligand:**	1.3 nM [^{3}H] Naltrindole
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Naltrindole
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	95% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 1 mM EDTA, 10 mM $MgCl_2$	**Quantiation Method:**	Radioligand Binding
Kd:	0.27 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	7.6 pmole/mg Protein *

260210 Opiate κ(OP2, KOP)

Source:	Human recombinant HEK-293 cells	**Ligand:**	0.6 nM [^{3}H] Diprenorphine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Naloxone
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	0.4 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1.1 pmole/mg Protein *

* Historical Values

260410 Opiate μ(OP3, MOP)

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.6 nM [^{3}H] Diprenorphine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 μM Naloxone
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	0.41 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	3.8 pmole/mg Protein *

264500 Phorbol Ester

Source:	ICR Mouse brain	**Ligand:**	3 nM [^{3}H] PDBu
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 μM PDBu
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	80% *
Incubation Buffer:	20 mM Tris-HCl, pH 7.4, 5 mM $CaCl_2$	**Quantiation Method:**	Radioligand Binding
Kd:	8.7 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	26 pmole/mg Protein *

265010 Platelet Activating Factor (PAF)

Source:	Human platelets	**Ligand:**	0.12 nM [^{3}H] PAF
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 μM PAF
Incubation Time/Temp:	3 hours @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 100 mM KCl, 5 mM EDTA, 5 mM $MgCl_2$, 0.25% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	0.13 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	120 R/cell *

265600 Potassium Channel [K_{ATP}]

Source:	Hamster pancreatic HIT-T15 beta cells	**Ligand:**	5 nM [^{3}H] Glyburide
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 μM Glyburide
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM MOPS, pH 7.4, 0.1 mM $CaCl_2$	**Quantiation Method:**	Radioligand Binding
Kd:	0.64 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1 pmole/mg Protein *

* Historical Values

265900 Potassium Channel hERG

Source:	Human recombinant HEK-293 cells	**Ligand:**	1.5 nM [^{3}H] Astemizole
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Astemizole
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	10 mM HEPES, pH 7.4, 0.1% BSA, 5 mM KCl, 0.8 mM $MgCl_2$, 130 mM NaCl, 1 mM EGTA, 10 mM Glucose	**Quantiation Method:**	Radioligand Binding
Kd:	6.8 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	6.3 pmole/mg Protein *

268420 Prostanoid EP_4

Source:	Human recombinant Chem-1 cells	**Ligand:**	1 nM [^{3}H] Prostaglandin E_2 (PGE_2)
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Prostaglandin E_2 (PGE_2)
Incubation Time/Temp:	2 hours @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	10 mM MES, pH 6.0, 1 mM EDTA, 10 mM $MgCl_2$	**Quantiation Method:**	Radioligand Binding
Kd:	0.69 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	4.3 pmole/mg Protein *

268700 Purinergic P_{2X}

Source:	New Zealand derived albino Rabbit urinary bladder	**Ligand:**	8 nM [^{3}H] α, β-Methylene-ATP
Vehicle:	1% DMSO	**Non-Specific Ligand:**	100 µM β, γ-Methylene ATP
Incubation Time/Temp:	30 minutes @ 25°C	**Specific Binding:**	80% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd1:	2.2 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
Kd2:	2.2 µM *	**Bmax1:**	2 pmole/mg Protein *
		Bmax2:	790 pmole/mg Protein *

268810 Purinergic P_{2Y}

Source:	Wistar Rat brain	**Ligand:**	0.1 nM [^{35}S] ATP-αS
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM ADP-βS
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	87% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	0.015 µM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	16 pmole/mg Protein *

* Historical Values

270000 Rolipram

Source:	Wistar Rat brain	**Ligand:**	1.8 nM [^{3}H] Rolipram
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Rolipram
Incubation Time/Temp:	60 minutes @ 4°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4	**Quantiation Method:**	Radioligand Binding
Kd:	1 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.31 pmole/mg Protein *

271110 Serotonin (5-Hydroxytryptamine) 5-HT$_{1A}$

Source:	Human recombinant CHO-K1 cells	**Ligand:**	1.5 nM [^{3}H] 8-OH-DPAT
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Metergoline
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	75% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 0.1% Ascorbic Acid, 0.5 mM EDTA, 10 mM $MgSO_4$	**Quantiation Method:**	Radioligand Binding
Kd:	2 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1.3 pmole/mg Protein *

271700 Serotonin (5-Hydroxytryptamine) 5-HT$_{2B}$

Source:	Human recombinant CHO-K1 cells	**Ligand:**	1.2 nM [^{3}H] Lysergic acid diethylamide (LSD)
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Serotonin (5-HT)
Incubation Time/Temp:	60 minutes @ 37°C	**Specific Binding:**	80% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 4 mM $CaCl_2$, 0.1% Ascorbic Acid	**Quantiation Method:**	Radioligand Binding
Kd:	2.1 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1.1 pmole/mg Protein *

271910 Serotonin (5-Hydroxytryptamine) 5-HT$_3$

Source:	Human recombinant HEK-293 cells	**Ligand:**	0.69 nM [^{3}H] GR-65630
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM MDL 72222
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 1 mM EDTA, 5 mM $MgCl_2$	**Quantiation Method:**	Radioligand Binding
Kd:	0.2 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	11 pmole/mg Protein *

* Historical Values

278110 Sigma σ_1

Source:	Human Jurkat cells	**Ligand:**	8 nM [^{3}H] Haloperidol
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Haloperidol
Incubation Time/Temp:	4 hours @ 25°C	**Specific Binding:**	80% *
Incubation Buffer:	5 mM Potassium Phosphate, pH 7.5	**Quantiation Method:**	Radioligand Binding
Kd:	5.8 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.71 pmole/mg Protein *

255520 Tachykinin NK_1

Source:	Human recombinant CHO cells	**Ligand:**	0.8 nM [^{3}H] Substance P
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM L-703,606
Incubation Time/Temp:	90 minutes @ 4°C	**Specific Binding:**	90% *
Incubation Buffer:	20 mM HEPES, pH 7.4, 1 mM $MnCl_2$, 0.1% BSA	**Quantiation Method:**	Radioligand Binding
Kd:	2.1 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	1.7 pmole/mg Protein *

285900 Thyroid Hormone

Source:	Wistar Rat liver	**Ligand:**	0.03 nM [^{125}I] Triiodothyronine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	1 µM Triiodothyronine
Incubation Time/Temp:	18 hours @ 4°C	**Specific Binding:**	77% *
Incubation Buffer:	20 mM Tris-HCl, pH 7.6, 50 mM NaCl, 10% Glycerol, 2 mM EDTA, 5 mM DTT	**Quantiation Method:**	Radioligand Binding
Kd:	0.034 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.16 pmole/mg Protein *

220320 Transporter, Dopamine (DAT)

Source:	Human recombinant CHO-K1 cells	**Ligand:**	0.15 nM [^{125}I] RTI-55
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Nomifensine
Incubation Time/Temp:	3 hours @ 4°C	**Specific Binding:**	90% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 100 mM NaCl, 1 µM Leupeptin, 10 µM PMSF	**Quantiation Method:**	Radioligand Binding
Kd:	0.58 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	0.047 pmole/mg Protein *

* Historical Values

■ 226400 Transporter, GABA

Source:	Wistar Rat cerebral cortex	**Ligand:**	6 nM [^{3}H] GABA
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM NO-711
Incubation Time/Temp:	20 minutes @ 25°C	**Specific Binding:**	80% *
Incubation Buffer:	10 mM HEPES, pH 7.5, 120 mM NaCl, 4 mM $Ca(CH_3COO)_2$, 10 µM Isoguvacine, 10 µM S(-)-Baclofen	**Quantiation Method:**	Radioligand Binding
Kd:	0.3 µM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	60 pmole/mg Protein *

■ 204410 Transporter, Norepinephrine (NET)

Source:	Human recombinant MDCK cells	**Ligand:**	0.2 nM [^{125}I] RTI-55
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Desipramine
Incubation Time/Temp:	3 hours @ 4°C	**Specific Binding:**	75% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 100 mM NaCl, 1 µM Leupeptin, 10 µM PMSF	**Quantiation Method:**	Radioligand Binding
Kd:	0.024 µM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	2.5 pmole/mg Protein *

■ 274030 Transporter, Serotonin (5-Hydroxytryptamine) (SERT)

Source:	Human recombinant HEK-293 cells	**Ligand:**	0.4 nM [^{3}H] Paroxetine
Vehicle:	1% DMSO	**Non-Specific Ligand:**	10 µM Imipramine
Incubation Time/Temp:	60 minutes @ 25°C	**Specific Binding:**	95% *
Incubation Buffer:	50 mM Tris-HCl, pH 7.4, 120 mM NaCl, 5 mM KCl	**Quantiation Method:**	Radioligand Binding
Kd:	0.078 nM *	**Significance Criteria:**	≥50% of max stimulation or inhibition
		Bmax:	4.4 pmole/mg Protein *

* Historical Values

Reference Compounds

Cat #	Assay Name	Reference Compound	Historical IC_{50}*	Historical K_i	Historical n_H	Concurrent Batch *	Concurrent IC_{50}*
200510	Adenosine A_1	R(-)-PIA	0.83 µM	0.49 µM	0.9	305599	0.42 µM
200610	Adenosine A_{2A}	CGS-21680	0.13 µM	0.079 µM	1	305600	0.11 µM
200720	Adenosine A_3	IB-MECA	0.78 nM	0.72 nM	0.8	305602	1.08 nM
203100	Adrenergic α_{1A}	Prazosin	0.69 nM	0.28 nM	0.9	305613	0.25 nM
203200	Adrenergic α_{1B}	Prazosin	0.27 nM	0.15 nM	1	305614	0.23 nM
203400	Adrenergic α_{1D}	Prazosin	0.88 nM	0.43 nM	0.7	305615	0.84 nM
203620	Adrenergic α_{2A}	Yohimbine	8.4 nM	3.1 nM	0.9	305616	4.01 nM
204010	Adrenergic β_1	S(-)-Propranolol	2.5 nM	1.4 nM	0.8	305603	0.88 nM
204110	Adrenergic β_2	S(-)-Propranolol	0.78 nM	0.54 nM	1.2	305604	0.4 nM
285010	Androgen (Testosterone) AR	Testosterone	6.5 nM	4.3 nM	1	305773	4.88 nM
212510	Bradykinin B_1	(Des-Arg^{10})-Kallidin	0.87 nM	0.22 nM	1.1	305625	0.31 nM
212620	Bradykinin B_2	Bradykinin	1.8 nM	1.1 nM	1	305626	1.28 nM
214510	Calcium Channel L-Type, Benzothiazepine	Diltiazem	0.036 µM	0.032 µM	0.9	305776	0.02 µM
214600	Calcium Channel L-Type, Dihydropyridine	Nitrendipine	0.72 nM	0.46 nM	0.9	305794	0.24 nM
216000	Calcium Channel N-Type	ω-Conotoxin GVIA	0.034 nM	0.028 nM	1.6	305795	0.031 nM
217030	Cannabinoid CB_1	R(+)-WIN-55,212-2	0.2 µM	0.15 µM	0.7	305621	0.17 µM
219500	Dopamine D_1	R(+)-SCH-23390	1.4 nM	0.7 nM	0.9	305797	0.95 nM
219700	Dopamine D_{2S}	Spiperone	0.25 nM	0.089 nM	1	305798	0.22 nM
219800	Dopamine D_3	Spiperone	0.36 nM	0.12 nM	0.9	305799	0.41 nM
219900	Dopamine $D_{4.2}$	Spiperone	0.5 nM	0.2 nM	0.9	305800	0.3 nM
224010	Endothelin ET_A	Endothelin-1	0.23 nM	0.14 nM	1.1	305622	0.094 nM
224110	Endothelin ET_B	Endothelin-1	0.13 nM	0.06 nM	0.9	305623	0.059 nM
225510	Epidermal Growth Factor (EGF)	EGF (human)	1.6 nM	1.1 nM	1.1	305638	3.69 nM
226010	Estrogen ERα	Diethylstilbestrol	0.77 nM	0.22 nM	1	305716	0.98 nM
226600	$GABA_A$, Flunitrazepam, Central	Diazepam	0.016 µM	0.013 µM	0.8	305802	0.019 µM
226500	$GABA_A$, Muscimol, Central	GABA	0.032 µM	0.026 µM	0.9	305801	0.024 µM
228610	$GABA_{B1A}$	CGP-54626	6.4 nM	2.9 nM	1	305888	3.56 nM
232030	Glucocorticoid	Dexamethasone	3.8 nM	1.8 nM	0.9	305774	5.27 nM
232700	Glutamate, Kainate	L-Glutamic acid	0.24 µM	0.17 µM	0.8	305634	0.16 µM
232810	Glutamate, NMDA, Agonism	L-Glutamic acid	0.41 µM	0.37 µM	0.9	305632	0.17 µM
232910	Glutamate, NMDA, Glycine	MDL 105,519	0.022 µM	0.021 µM	0.6	305635	9.34 nM
233000	Glutamate, NMDA, Phencyclidine	Dizocilpine ((+)-MK-801)	5.1 nM	3.4 nM	0.7	305803	3.86 nM
239610	Histamine H_1	Pyrilamine	3.3 nM	1.6 nM	1	305804	2.59 nM
239710	Histamine H_2	Tiotidine	0.022 µM	0.018 µM	1.1	305805	0.027 µM
239820	Histamine H_3	R(-)-α-Methylhistamine (RAMH)	2.3 nM	1.1 nM	1.1	305806	1.05 nM
241000	Imidazoline I_2, Central	Idazoxan	0.012 µM	8 nM	1	305807	7 nM
243520	Interleukin IL-1	IL-1β	0.19 nM	0.14 nM	1.3	305639	0.36 nM

* Batch: Represents compounds tested concurrently in the same assay(s).

250460	Leukotriene, Cysteinyl $CysLT_1$	LTD_4	0.7 nM	0.29 nM	1	305750	1.24 nM
251600	Melatonin MT_1	Melatonin	0.21 nM	0.11 nM	0.7	305752	0.31 nM
252610	Muscarinic M_1	4-DAMP	4.5 nM	1.1 nM	1	305608	4.67 nM
252710	Muscarinic M_2	4-DAMP	0.055 µM	0.023 µM	1	305609	0.035 µM
252810	Muscarinic M_3	4-DAMP	5.1 nM	2.5 nM	1.1	305610	2.29 nM
257010	Neuropeptide Y Y_1	Neuropeptide Y (human, rat)	0.22 nM	0.21 nM	1.1	305636	0.51 nM
257110	Neuropeptide Y Y_2	Neuropeptide Y (13-36) (porcine)	0.21 nM	0.12 nM	0.9	305637	0.49 nM
258590	Nicotinic Acetylcholine	Epibatidine	0.076 nM	0.052 nM	0.9	305811	0.078 nM
258700	Nicotinic Acetylcholine α, Bungarotoxin	α-Bungarotoxin	1.1 nM	0.72 nM	1.1	305812	1.93 nM
260130	Opiate δ_1 (OP1, DOP)	Naltrindole	0.91 nM	0.16 nM	1	305631	1.12 nM
260210	Opiate κ(OP2, KOP)	U-69593	0.016 µM	6.4 nM	0.5	305988	0.012 µM
260410	Opiate µ(OP3, MOP)	DAMGO	0.02 µM	8.1 nM	0.6	305815	0.038 µM
264500	Phorbol Ester	PMA	0.79 nM	0.59 nM	1	305816	1.08 nM
265010	Platelet Activating Factor (PAF)	PAF	0.28 nM	0.15 nM	0.9	305687	0.25 nM
265600	Potassium Channel [K_{ATP}]	Glyburide	5.7 nM	0.65 nM	0.8	305817	4.13 nM
265900	Potassium Channel hERG	Astemizole	2.6 nM	2.1 nM	1.1	305818	3.69 nM
268420	Prostanoid EP_4	Prostaglandin E_2 (PGE_2)	1.1 nM	0.45 nM	0.9	305819	1.25 nM
268700	Purinergic P_{2X}	α, β-Methylene ATP	0.082 µM	0.018 µM	1.1	305713	0.029 µM
268810	Purinergic P_{2Y}	ATP	0.018 µM	0.018 µM	0.9	305714	0.019 µM
270000	Rolipram	Rolipram	5.7 nM	2.1 nM	1	305820	3.24 nM
271110	Serotonin (5-Hydroxytryptamine) $5\text{-}HT_{1A}$	Metergoline	4.1 nM	2.3 nM	0.9	305821	1.93 nM
271700	Serotonin (5-Hydroxytryptamine) $5\text{-}HT_{2B}$	Ketanserin	0.29 µM	0.18 µM	0.6	305822	0.41 µM
271910	Serotonin (5-Hydroxytryptamine) $5\text{-}HT_3$	MDL 72222	0.011 µM	2.5 nM	0.8	305720	0.017 µM
278110	Sigma σ_1	Haloperidol	0.021 µM	8.8 nM	0.9	305823	6.99 nM
255520	Tachykinin NK_1	L-703,606	3.6 nM	2.6 nM	1	305810	7.25 nM
285900	Thyroid Hormone	Triiodothyronine	0.034 nM	0.018 nM	1	305624	0.04 nM
220320	Transporter, Dopamine (DAT)	GBR-12909	1.7 nM	1.3 nM	0.9	305619	0.8 nM
226400	Transporter, GABA	NO-711	0.2 µM	0.2 µM	1.1	305882	0.21 µM
204410	Transporter, Norepinephrine (NET)	Desipramine	0.93 nM	0.92 nM	0.6	305618	0.67 nM
274030	Transporter, Serotonin (5-Hydroxytryptamine) (SERT)	Fluoxetine	8.6 nM	1.4 nM	0.9	305620	6.95 nM

* Batch: Represents compounds tested concurrently in the same assay(s).