

Cytotoxicity and off-target effect of PG-001

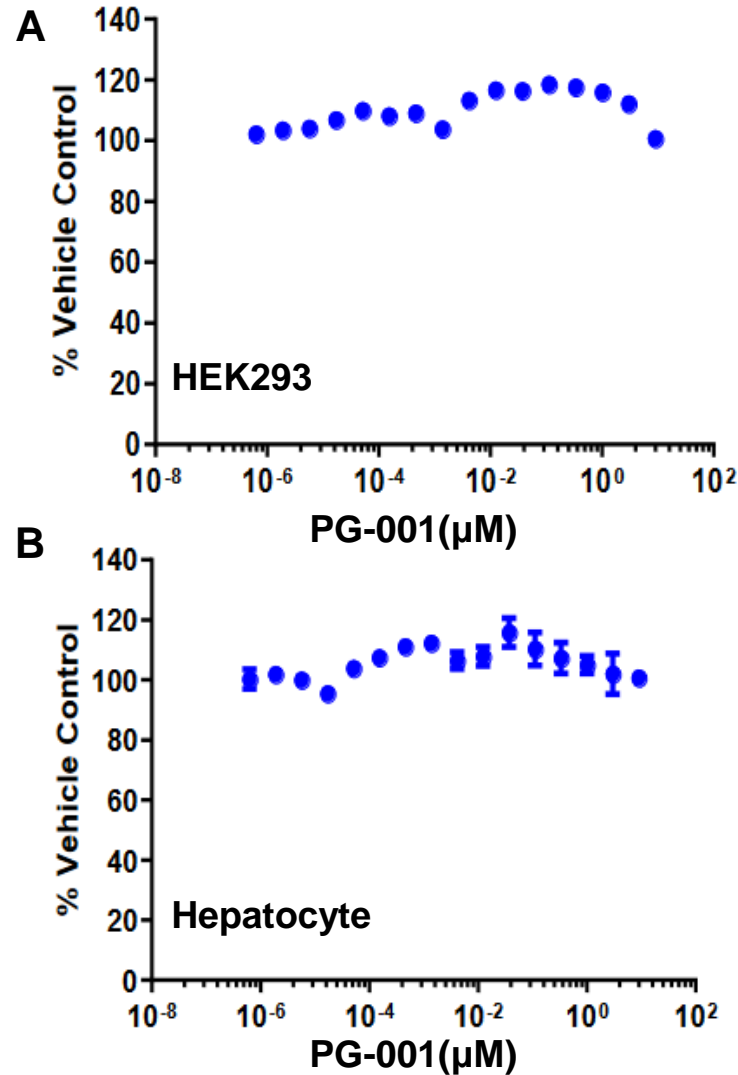


Fig 1 Cytotoxicity evaluation of PG-001 using (A) HEK293 and (B) Hepatocyte cells. No significant cytotoxicity was observed at the concentration less than 9 µM of PG-001.

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.
Compound: PD-AAR306-AD-2, PT #: 1242163						
200510	Adenosine A ₁	460913	hum	2	3 µM	-19
200610	Adenosine A _{2A}	460914	hum	2	3 µM	-16
200720	Adenosine A ₃	461004	hum	2	3 µM	0
203110	Adrenergic α _{1A}	460921	hum	2	3 µM	-3
203210	Adrenergic α _{1B}	460922	hum	2	3 µM	-8
203400	Adrenergic α _{1D}	460887	hum	2	3 µM	-3
203630	Adrenergic α _{2A}	460820	hum	2	3 µM	-22
204010	Adrenergic β ₁	460923	hum	2	3 µM	-12
204110	Adrenergic β ₂	460935	hum	2	3 µM	8
206000	Androgen (Testosterone)	460873	hum	2	3 µM	1
212520	Bradykinin B ₁	460935	hum	2	3 µM	-10
212620	Bradykinin B ₂	460890	hum	2	3 µM	-9
214510	Calcium Channel L-Type, Benzothiazepine	460864	rat	2	3 µM	0
214600	Calcium Channel L-Type, Dihydropyridine	460924	rat	2	3 µM	9
216000	Calcium Channel N-Type	460889	rat	2	3 µM	-3
217050	Cannabinoid CB ₁	460929	hum	2	3 µM	-7
219500	Dopamine D ₁	460919	hum	2	3 µM	4
219700	Dopamine D _{2S}	460920	hum	2	3 µM	3
219800	Dopamine D ₃	460919	hum	2	3 µM	-5
220000	Dopamine D _{4,4}	461068	hum	2	3 µM	15
224010	Endothelin ET _A	460962	hum	2	3 µM	-5
224110	Endothelin ET _B	460963	hum	2	3 µM	1
225510	Epidermal Growth Factor (EGF)	460858	hum	2	3 µM	2
226010	Estrogen ERα	460896	hum	2	3 µM	-9
226600	GABA _A , Flunitrazepam, Central	460841	rat	2	3 µM	-6
226500	GABA _A , Muscimol, Central	460840	rat	2	3 µM	5
228610	GABA _{B1A}	460972	hum	2	3 µM	0
232030	Glucocorticoid	460883	hum	2	3 µM	-10
232710	Glutamate, Kainate	460824	rat	2	3 µM	-4
232810	Glutamate, NMDA, Agonism	460916	rat	2	3 µM	-9
232910	Glutamate, NMDA, Glycine	460917	rat	2	3 µM	5
233000	Glutamate, NMDA, Phencyclidine	460825	rat	2	3 µM	-15
239610	Histamine H ₁	460918	hum	2	3 µM	4
239710	Histamine H ₂	460939	hum	2	3 µM	-15
239820	Histamine H ₃	461069	hum	2	3 µM	-3

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.
241000	Imidazoline I ₂ , Central	460844	rat	2	3 µM	-23
243530	Interleukin IL-1 R1	460860	hum	2	3 µM	2
250460	Leukotriene, Cysteinyl CysLT ₁	460827	hum	2	3 µM	8
251600	Melatonin MT ₁	460877	hum	2	3 µM	-6
252610	Muscarinic M ₁	460957	hum	2	3 µM	-7
252710	Muscarinic M ₂	460958	hum	2	3 µM	-17
252810	Muscarinic M ₃	460959	hum	2	3 µM	-13
257010	Neuropeptide Y Y ₁	460868	hum	2	3 µM	7
257110	Neuropeptide Y Y ₂	460867	hum	2	3 µM	0
258700	Nicotinic Acetylcholine α1, Bungarotoxin	460993	hum	2	3 µM	-8
258730	Nicotinic Acetylcholine α3β4	460932	hum	2	3 µM	-16
260130	Opiate δ ₁ (OP1, DOP)	460828	hum	2	3 µM	4
260210	Opiate κ (OP2, KOP)	460829	hum	2	3 µM	-25
260410	Opiate μ (OP3, MOP)	460830	hum	2	3 µM	-14
264500	Phorbol Ester	460870	mouse	2	3 µM	-9
299037	Platelet Activating Factor (PAF)	461141	hum	2	3 µM	-8
265600	Potassium Channel [K _{ATP}]	460979	ham	2	3 µM	-4
265900	Potassium Channel hERG	460933	hum	2	3 µM	5
268420	Prostanoid EP ₄	460848	hum	2	3 µM	6
299036	Purinergic P2X	461229	rat	2	3 µM	5
268820	Purinergic P2Y, Non-Selective	460874	rat	2	3 µM	-5
270000	Rolipram	460937	rat	2	3 µM	4
271110	Serotonin (5-Hydroxytryptamine) 5-HT _{1A}	460891	hum	2	3 µM	1
271700	Serotonin (5-Hydroxytryptamine) 5-HT _{2A}	460927	hum	2	3 µM	-14
271910	Serotonin (5-Hydroxytryptamine) 5-HT _{2B}	460859	hum	2	3 µM	-34
299034	Sigma σ ₁	460855	hum	2	3 µM	8
279510	Sodium Channel, Site 2	460934	rat	2	3 µM	1
255520	Tachykinin NK ₁	461008	hum	2	3 µM	-11
285900	Thyroid Hormone	461037	rat	2	3 µM	-6
220320	Transporter, Dopamine (DAT)	460857	hum	2	3 µM	-5
226400	Transporter, GABA	460915	rat	2	3 µM	-12
204410	Transporter, Norepinephrine (NET)	460831	hum	2	3 µM	-2
274030	Transporter, Serotonin (5-Hydroxytryptamine) (SERT)	460850	hum	2	3 µM	-18

Fig 2 Off-Target panel assay of PG-001 against 68 targets conducted by Eurofins Panlabs. No significant (>50% inhibition) off-target effect was observed at a concentration of 3 µM of PG-001.

Cytotoxicity and off-target effect of PG-002

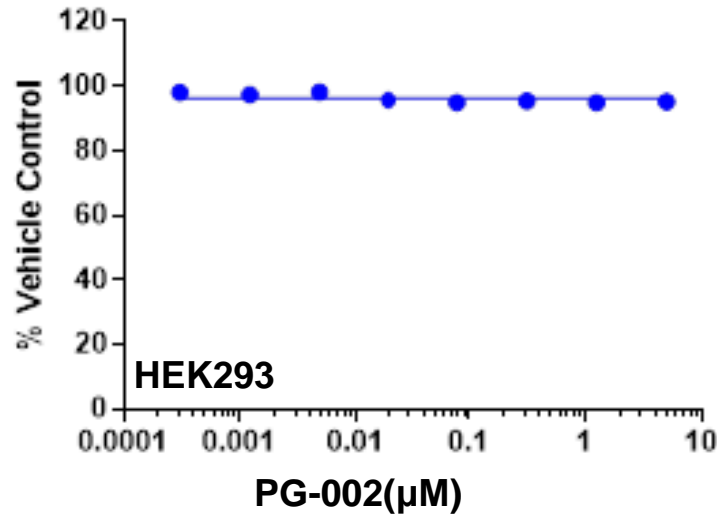


Fig 3 Cytotoxicity evaluation of PG-002 using HEK293. No significant cytotoxicity was observed at the concentration less than 5 µM of PG-002.

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.
239820	Histamine H ₃	469330	hum	2	5 µM	25	Compound: PD-AAU043-AA-1, PT #: 1246570						
241000	Imidazole I ₂ , Central	469404	rat	2	5 µM	22	200510	Adenosine A ₁	469387	hum	2	5 µM	-8
243530	Interleukin IL-1 R1	469478	hum	2	5 µM	-5	200610	Adenosine A _{2A}	469387	hum	2	5 µM	-6
250460	Leukotriene, CysteinyI CysLT ₁	469344	hum	2	5 µM	-2	200720	Adenosine A ₃	469327	hum	2	5 µM	0
251600	Melatonin MT ₁	469399	hum	2	5 µM	8	203110	Adrenergic α _{1A}	469388	hum	2	5 µM	0
252610	Muscarinic M ₁	469328	hum	2	5 µM	2	203210	Adrenergic α _{1B}	469388	hum	2	5 µM	-3
252710	Muscarinic M ₂	469328	hum	2	5 µM	-1	203400	Adrenergic α _{1D}	469391	hum	2	5 µM	13
252810	Muscarinic M ₃	469329	hum	2	5 µM	-10	203630	Adrenergic α _{2A}	469385	hum	2	5 µM	-8
257010	Neuropeptide Y Y ₁	469482	hum	2	5 µM	7	204010	Adrenergic β ₁	469378	hum	2	5 µM	-6
257110	Neuropeptide Y Y ₂	469483	hum	2	5 µM	4	204110	Adrenergic β ₂	469389	hum	2	5 µM	2
258700	Nicotinic Acetylcholine α ₁ , Bungarotoxin	469400	hum	2	5 µM	-8	206000	Androgen (Testosterone)	469356	hum	2	5 µM	-4
258730	Nicotinic Acetylcholine α _{3β} 4	469401	hum	2	5 µM	-23	212520	Bradykinin B ₁	469342	hum	2	5 µM	8
260130	Opiate δ ₁ (OP1, DOP)	469849	hum	2	5 µM	3	214510	Calcium Channel L-Type, Benzothiazepine	469390	rat	2	5 µM	5
260210	Opiate κ (OP2, KOP)	469352	hum	2	5 µM	10	214600	Calcium Channel L-Type, Dihydropyridine	469341	rat	2	5 µM	9
260410	Opiate μ (OP3, MOP)	469352	hum	2	5 µM	-23	216000	Calcium Channel N-Type	469392	rat	2	5 µM	0
264500	Phorbol Ester	469396	mouse	2	5 µM	0	217050	Cannabinoid CB ₁	469440	hum	2	5 µM	-2
299037	Platelet Activating Factor (PAF)	469394	hum	2	5 µM	2	219500	Dopamine D ₁	469383	hum	2	5 µM	8
265600	Potassium Channel [K _{v1.7}]	469452	ham	2	5 µM	8	219700	Dopamine D _{2S}	469543	hum	2	5 µM	0
265900	Potassium Channel hERG	469453	hum	2	5 µM	21	219800	Dopamine D ₂	469380	hum	2	5 µM	4
268420	Prostanoid EP ₄	469386	hum	2	5 µM	0	220000	Dopamine D ₄	469543	hum	2	5 µM	-4
299036	Purinergic P2X	469403	rat	2	5 µM	12	224010	Endothelin ET _A	469464	hum	2	5 µM	-3
268820	Purinergic P2Y, Non-Selective	469331	rat	2	5 µM	30	224110	Endothelin ET _B	469465	hum	2	5 µM	-6
270000	Rolipram	469358	rat	2	5 µM	5	225510	Epidermal Growth Factor (EGF)	469332	hum	2	5 µM	0
271110	Serotonin (5-Hydroxytryptamine) 5-HT _{1A}	469353	hum	2	5 µM	-3	226010	Estrogen ERα	469397	hum	2	5 µM	7
271700	Serotonin (5-Hydroxytryptamine) 5-HT _{2B}	469354	hum	2	5 µM	-11	226600	GABA _A , Flunitrazepam, Central	469342	rat	2	5 µM	-5
271910	Serotonin (5-Hydroxytryptamine) 5-HT ₂	469353	hum	2	5 µM	-40	226500	GABA _A , Muscimol, Central	469398	rat	2	5 µM	3
299034	Sigma σ ₁	469383	hum	2	5 µM	15	228610	GABA _{B1A}	469343	hum	2	5 µM	-7
279510	Sodium Channel, Site 2	469402	rat	2	5 µM	0	232030	Glucocorticoid	469410	hum	2	5 µM	26
255520	Tachykinin NK ₁	469351	hum	2	5 µM	5	232710	Glutamate, Kainate	469393	rat	2	5 µM	6
285900	Thyroid Hormone	469359	rat	2	5 µM	7	232810	Glutamate, NMDA, Agonism	469355	rat	2	5 µM	-12
220320	Transporter, Dopamine (DAT)	469376	hum	2	5 µM	7	232910	Glutamate, NMDA, Glycine	469355	rat	2	5 µM	-17
228400	Transporter, GABA	469348	rat	2	5 µM	-3	233000	Glutamate, NMDA, Phencyclidine	469349	rat	2	5 µM	3
204410	Transporter, Norepinephrine (NET)	469375	hum	2	5 µM	2	239610	Histamine H ₁	469395	hum	2	5 µM	12
274030	Transporter, Serotonin (5-Hydroxytryptamine) (SERT)	469396	hum	2	5 µM	-1	239710	Histamine H ₂	469378	hum	2	5 µM	-9

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
 * Batch: Represents compounds tested concurrently in the same assay(s).
 ham=Hamster, hum=Human

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Fig 4 Off-Target panel assay of PG-002 against 68 targets conducted by Eurofins Panlabs. No significant (>50% inhibition) off-target effect was observed at a concentration of 5 µM of PG-002.

Cytotoxicity and off-target effect of PG-003

Experimental Results

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC ₅₀ *	K _i	n _H
Compound: PD-ABE942-AA-1, PT #: 1258689									
200510	Adenosine A ₁	484514	hum	2	5 μM	0			
200610	Adenosine A _{2A}	484513	hum	2	5 μM	9			
200720	Adenosine A ₃	484520	hum	2	5 μM	10			
203110	Adrenergic α _{1A}	484666	hum	2	5 μM	-12			
203210	Adrenergic α _{1B}	484762	hum	2	5 μM	-9			
203400	Adrenergic α _{1D}	484761	hum	2	5 μM	7			
203630	Adrenergic α _{2A}	484599	hum	2	5 μM	-9			
204010	Adrenergic β ₁	484515	hum	2	5 μM	11			
204110	Adrenergic β ₂	484512	hum	2	5 μM	3			
206000	Androgen (Testosterone)	484738	hum	2	5 μM	5			
212520	Bradykinin B ₁	484838	hum	2	5 μM	-1			
212620	Bradykinin B ₂	484577	hum	2	5 μM	-2			
214510	Calcium Channel L-Type, Benzothiazepine	484759	rat	2	5 μM	6			
214600	Calcium Channel L-Type, Dihydropyridine	484847	rat	2	5 μM	8			
216000	Calcium Channel N-Type	484763	rat	2	5 μM	-1			
217050	Cannabinoid CB ₁	484537	hum	2	5 μM	15			
219500	Dopamine D ₁	484517	hum	2	5 μM	4			
219700	Dopamine D _{2S}	484519	hum	2	5 μM	-3			
219800	Dopamine D ₃	484516	hum	2	5 μM	6			
220000	Dopamine D ₄	484518	hum	2	5 μM	-4			
224010	Endothelin ET _A	484525	hum	2	5 μM	4			
224110	Endothelin ET _B	484526	hum	2	5 μM	3			
225510	Epidermal Growth Factor (EGF)	484766	hum	2	5 μM	6			
226010	Estrogen ERα	484669	hum	2	5 μM	-2			
226600	GABA _A , Flunitrazepam, Central	484840	rat	2	5 μM	0			
226500	GABA _A , Muscimol, Central	484579	rat	2	5 μM	6			
228610	GABA _{B1A}	484580	hum	2	5 μM	12			
232030	Glucocorticoid	484758	hum	2	5 μM	8			
232710	Glutamate, Kainate	484596	rat	2	5 μM	-9			
232810	Glutamate, NMDA, Agonism	484747	rat	2	5 μM	7			
232910	Glutamate, NMDA, Glycine	484748	rat	2	5 μM	1			
233000	Glutamate, NMDA, Phencyclidine	484764	rat	2	5 μM	-5			
239610	Histamine H ₁	484873	hum	2	5 μM	-5			

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
ham=Hamster, hum=Human

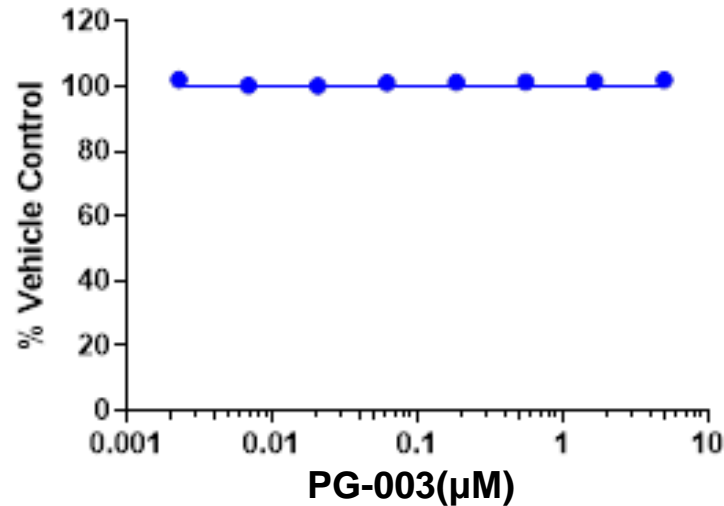


Fig 5 Cytotoxicity evaluation of PG-003 using HEK293. No significant cytotoxicity was observed at the concentration less than 5 μM of PG-003.

Experimental Results

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC ₅₀ *	K _i	n _H	R
239710	Histamine H ₂	484837	hum	2	5 μM	0				
239820	Histamine H ₃	484679	hum	2	5 μM	-1				
241000	Imidazole I ₂ , Central	484527	rat	2	5 μM	-20				
243530	Interleukin IL-1 R1	484572	hum	2	5 μM	0				
250460	Leukotriene, Cysteinyl CysLT ₁	484765	hum	2	5 μM	-6				
251600	Melatonin MT ₁	484581	hum	2	5 μM	-1				
252610	Muscarinic M ₁	484676	hum	2	5 μM	-17				
252710	Muscarinic M ₂	484677	hum	2	5 μM	5				
252810	Muscarinic M ₃	484678	hum	2	5 μM	1				
257010	Neuropeptide Y Y ₁	484574	hum	2	5 μM	8				
257110	Neuropeptide Y Y ₂	484528	hum	2	5 μM	6				
258700	Nicotinic Acetylcholine α ₁ , Bungarotoxin	484584	hum	2	5 μM	4				
258730	Nicotinic Acetylcholine α _{3β4}	484608	hum	2	5 μM	-17				
260130	Opiate δ ₁ (OP ₁ , DOP)	484684	hum	2	5 μM	14				
260210	Opiate κ (OP ₂ , KOP)	484683	hum	2	5 μM	7				
260410	Opiate μ (OP ₃ , MOP)	484682	hum	2	5 μM	-3				
264500	Phorbol Ester	484589	mouse	2	5 μM	6				
299037	Platelet Activating Factor (PAF)	484541	hum	2	5 μM	3				
265600	Potassium Channel [K _{ATP}]	484532	hum	2	5 μM	-1				
265900	Potassium Channel HERG	484586	hum	2	5 μM	21				
268420	Prostanoid EP ₄	484532	hum	2	5 μM	1				
299036	Purinergic P2X	484672	rat	2	5 μM	-9				
268820	Purinergic P2Y, Non-Selective	484668	rat	2	5 μM	5				
270000	Rolipram	484849	rat	2	5 μM	-4				
271110	Serotonin (5-Hydroxytryptamine) 5-HT _{1A}	484680	hum	2	5 μM	-11				
271700	Serotonin (5-Hydroxytryptamine) 5-HT _{2A}	484544	hum	2	5 μM	-13				
271910	Serotonin (5-Hydroxytryptamine) 5-HT _{2B}	484540	hum	2	5 μM	-5				
299034	Sigma σ ₁	484535	hum	2	5 μM	8				
279510	Sodium Channel, Site 2	484533	rat	2	5 μM	-1				
255520	Tachykinin NK ₁	484573	hum	2	5 μM	-3				
285900	Thyroid Hormone	484576	rat	2	5 μM	6				
220320	Transporter, Dopamine (DAT)	484522	hum	2	5 μM	6				
226400	Transporter, GABA	484578	rat	2	5 μM	1				
204410	Transporter, Norepinephrine (NET)	484521	hum	2	5 μM	14				

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
ham=Hamster, hum=Human

Experimental Results

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC ₅₀ *	K _i	n _H	R
274030	Transporter, Serotonin (5-Hydroxytryptamine) (SERT)	484589	hum	2	5 μM	4				

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Fig 6 Off-Target panel assay of PG-003 against 68 targets conducted by Eurofins Panlabs. No significant (>50% inhibition) off-target effect was observed at a concentration of 5 μM of PG-003.

Cytotoxicity and off-target effect of PG-004

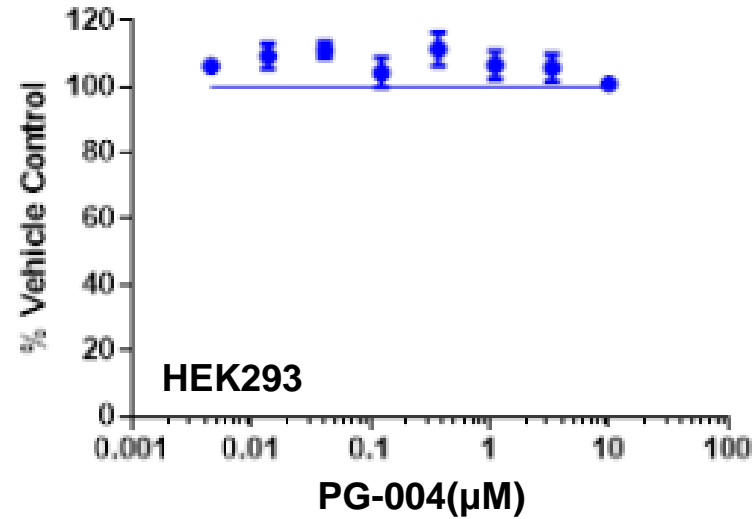


Fig 7 Cytotoxicity evaluation of PG-004 using HEK293. No significant cytotoxicity was observed at the concentration less than 10 µM of PG-004.

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.
Compound: PD-ABE704-AA-1, PT #: 1262327						
200510	Adenosine A ₁	487262	hum	2	10 µM	-5
200610	Adenosine A _{2A}	487263	hum	2	10 µM	-1
200720	Adenosine A ₃	487427	hum	2	10 µM	1
203110	Adrenergic α _{1A}	487350	hum	2	10 µM	9
203210	Adrenergic α _{1B}	487351	hum	2	10 µM	8
203400	Adrenergic α _{1D}	487370	hum	2	10 µM	2
203630	Adrenergic α _{2A}	487310	hum	2	10 µM	-8
204010	Adrenergic β ₁	487332	hum	2	10 µM	2
204110	Adrenergic β ₂	487333	hum	2	10 µM	1
206000	Androgen (Testosterone)	487278	hum	2	10 µM	0
212520	Bradykinin B ₁	487265	hum	2	10 µM	-5
212620	Bradykinin B ₂	487331	hum	2	10 µM	-8
214510	Calcium Channel L-Type, Benzothiazepine	487238	rat	2	10 µM	6
214600	Calcium Channel L-Type, Dihydropyridine	487371	rat	2	10 µM	2
216000	Calcium Channel N-Type	487372	rat	2	10 µM	7
217050	Cannabinoid CB ₁	487334	hum	2	10 µM	7
219500	Dopamine D ₁	487363	hum	2	10 µM	-2
219700	Dopamine D _{2S}	487397	hum	2	10 µM	1
219800	Dopamine D ₃	487398	hum	2	10 µM	2
220000	Dopamine D ₄	487525	hum	2	10 µM	6
224010	Endothelin ET _A	487375	hum	2	10 µM	-4
224110	Endothelin ET _B	487376	hum	2	10 µM	2
225510	Epidermal Growth Factor (EGF)	487521	hum	2	10 µM	2
226010	Estrogen ERα	487336	hum	2	10 µM	-6
226600	GABA _A , Flunitrazepam, Central	487337	rat	2	10 µM	1
228500	GABA _A , Muscimol, Central	487475	rat	2	10 µM	6
228610	GABA _{B1A}	487285	hum	2	10 µM	22
232030	Glucocorticoid	487279	hum	2	10 µM	64
232710	Glutamate, Kainate	487322	rat	2	10 µM	-4
232810	Glutamate, NMDA, Agonism	487317	rat	2	10 µM	20
232910	Glutamate, NMDA, Glycine	487318	rat	2	10 µM	0
233000	Glutamate, NMDA, Phencyclidine	487286	rat	2	10 µM	29
239610	Histamine H ₁	487266	hum	2	10 µM	4

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
ham=Hamster; hum=Human

Fig 8 Off-Target panel assay of PG-004 against 68 targets conducted by Eurofins Panlabs. No significant (>50% inhibition) off-target effect was observed at a concentration of 10 µM of PG-004, except glucocorticoid was inhibited by 64%.

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.
239710	Histamine H ₂	487476	hum	2	10 µM	-22
239820	Histamine H ₃	487282	hum	2	10 µM	-3
241000	Imidazole I ₂ , Central	487346	rat	2	10 µM	-10
243530	Interleukin IL-1 R1	487446	hum	2	10 µM	0
250460	Leukotriene, Cysteiny CysLT ₁	487468	hum	2	10 µM	1
251600	Melatonin MT ₁	487458	hum	2	10 µM	-3
252610	Muscarinic M ₁	487269	hum	2	10 µM	4
252710	Muscarinic M ₂	487270	hum	2	10 µM	15
252810	Muscarinic M ₃	487271	hum	2	10 µM	-6
257010	Neuropeptide Y Y ₁	487366	hum	2	10 µM	-4
257110	Neuropeptide Y Y ₂	487462	hum	2	10 µM	-1
258700	Nicotinic Acetylcholine α1, Bungarotoxin	487536	hum	2	10 µM	-6
258730	Nicotinic Acetylcholine α3β4	487289	hum	2	10 µM	-8
260130	Opiate δ ₁ (OP1, DOP)	487273	hum	2	10 µM	8
260210	Opiate κ (OP2, KOP)	487274	hum	2	10 µM	16
260410	Opiate μ (OP3, MOP)	487275	hum	2	10 µM	8
264500	Phorbol Ester	487557	mouse	2	10 µM	13
299037	Platelet Activating Factor (PAF)	487291	hum	2	10 µM	10
265600	Potassium Channel [K _{ATP}]	487469	ham	2	10 µM	9
265900	Potassium Channel hERG	487467	hum	2	10 µM	27
268420	Prostanoid EP ₄	487470	hum	2	10 µM	5
299036	Purinergic P2X	487343	rat	2	10 µM	6
268820	Purinergic P2Y, Non-Selective	487340	rat	2	10 µM	10
270000	Rolipram	487434	rat	2	10 µM	13
271110	Serotonin (5-Hydroxytryptamine) 5-HT _{1A}	487277	hum	2	10 µM	3
271700	Serotonin (5-Hydroxytryptamine) 5-HT _{2B}	487276	hum	2	10 µM	-9
271910	Serotonin (5-Hydroxytryptamine) 5-HT ₃	487465	hum	2	10 µM	-11
299034	Sigma σ ₁	487314	hum	2	10 µM	9
279510	Sodium Channel, Site 2	487368	rat	2	10 µM	-1
255520	Tachykinin NK ₁	487288	hum	2	10 µM	5
285900	Thyroid Hormone	487454	rat	2	10 µM	-2
220320	Transporter, Dopamine (DAT)	487324	hum	2	10 µM	-8
226400	Transporter, GABA	487284	rat	2	10 µM	-3
204410	Transporter, Norepinephrine (NET)	487323	hum	2	10 µM	0

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
ham=Hamster; hum=Human

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.
274030	Transporter, Serotonin (5-Hydroxytryptamine) (SERT)	487244	hum	2	10 µM	-3

Cytotoxicity and off-target effect of PG-005

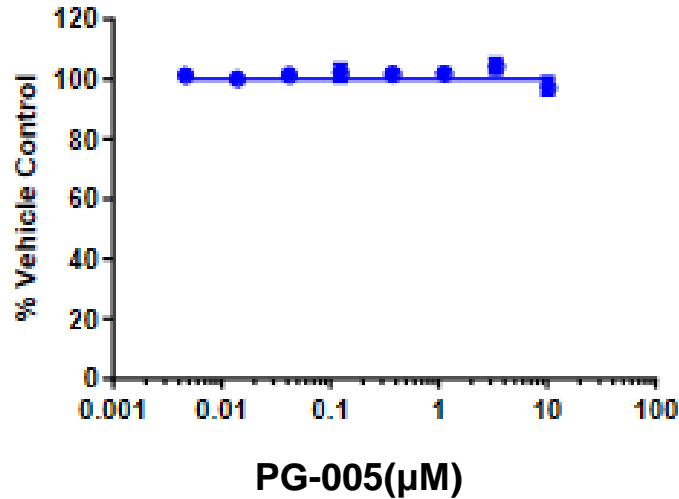


Fig 9 Cytotoxicity evaluation of PG-005 using HEK293. No significant cytotoxicity was observed at the concentration less than 10 μM of PG-005.

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC ₅₀ *
Compound: PD-ABL877-AA-1, PT #: 1270570							
200510	Adenosine A ₁	494604	hum	2	10 μM	6	
200610	Adenosine A _{2A}	494605	hum	2	10 μM	-6	
200720	Adenosine A ₃	494781	hum	2	10 μM	27	
203110	Adrenergic α _{1A}	494675	hum	2	10 μM	8	
203210	Adrenergic α _{1B}	494676	hum	2	10 μM	8	
203400	Adrenergic α _{1C}	494677	hum	2	10 μM	-2	
203630	Adrenergic α _{2A}	494613	hum	2	10 μM	-12	
204010	Adrenergic β ₁	494673	hum	2	10 μM	-3	
204110	Adrenergic β ₂	494683	hum	2	10 μM	-8	
206000	Androgen (Testosterone)	494664	hum	2	10 μM	-4	
212520	Bradykinin B ₁	494684	hum	2	10 μM	10	
212620	Bradykinin B ₂	494628	hum	2	10 μM	-9	
214510	Calcium Channel L-Type, Benzothiazepine	494739	rat	2	10 μM	-1	
214600	Calcium Channel L-Type, Dihydropyridine	494616	rat	2	10 μM	4	
216000	Calcium Channel N-Type	494723	rat	2	10 μM	-4	
217050	Cannabinoid CB ₁	494607	hum	2	10 μM	-16	
219500	Dopamine D ₁	494747	hum	2	10 μM	6	
219700	Dopamine D _{2S}	494695	hum	2	10 μM	-9	
219800	Dopamine D ₃	494748	hum	2	10 μM	14	
220000	Dopamine D _{4L}	494666	hum	2	10 μM	0	
224010	Endothelin ET _A	494668	hum	2	10 μM	37	
224110	Endothelin ET _B	494669	hum	2	10 μM	31	
225510	Epidermal Growth Factor (EGF)	494766	hum	2	10 μM	4	
226010	Estrogen ERα	494861	hum	2	10 μM	4	
226600	GABA _A , Flunitrazepam, Central	494626	rat	2	10 μM	12	
226500	GABA _A , Muscimol, Central	494782	rat	2	10 μM	5	
228610	GABA _{B1A}	494617	hum	2	10 μM	23	
232030	Glucocorticoid	494729	hum	2	10 μM	13	
232710	Glutamate, Kainate	494738	rat	2	10 μM	-6	
232810	Glutamate, NMDA, Agonism	494610	rat	2	10 μM	3	
232910	Glutamate, NMDA, Glycine	494611	rat	2	10 μM	9	
233000	Glutamate, NMDA, Phencyclidine	494859	rat	2	10 μM	1	
239610	Histamine H ₁	494612	hum	2	10 μM	4	

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
ham=Hamster; hum=Human

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC ₅₀ *
239710	Histamine H ₂	494625	hum	2	10 μM	-5	
239820	Histamine H ₃	494662	hum	2	10 μM	12	
241000	Imidazole Inz, Central	494631	rat	2	10 μM	-16	
243530	Interleukin IL-1 R1	494743	hum	2	10 μM	-15	
250460	Leukotriene, Cysteinyl CysLT ₁	494759	hum	2	10 μM	-9	
251600	Melatonin MT ₁	494784	hum	2	10 μM	3	
252610	Muscarinic M ₁	494792	hum	2	10 μM	-2	
252710	Muscarinic M ₂	494790	hum	2	10 μM	1	
252810	Muscarinic M ₃	494791	hum	2	10 μM	10	
257010	Neuropeptide Y Y ₁	494807	hum	2	10 μM	-6	
257110	Neuropeptide Y Y ₂	494788	hum	2	10 μM	-4	
258700	Nicotinic Acetylcholine α1, Bungarotoxin	494793	hum	2	10 μM	-4	
258730	Nicotinic Acetylcholine α3β4	494876	hum	2	10 μM	-20	
260130	Opiate δ ₁ (OP1, DOP)	494760	hum	2	10 μM	24	
260210	Opiate κ (OP2, KOP)	494761	hum	2	10 μM	16	
260410	Opiate μ (OP3, MOP)	494692	hum	2	10 μM	6	
264500	Phorbol Ester	494825	mouse	2	10 μM	-15	
299037	Platelet Activating Factor (PAF)	494691	hum	2	10 μM	-9	
265600	Potassium Channel [K _{ATP}]	494679	ham	2	10 μM	12	
265910	Potassium Channel hERG, [³ H]Dofetilide	494624	hum	2	10 μM	5	
268420	Prostanoid EP ₂	494798	hum	2	10 μM	7	
299036	Purinergic P2X	494603	rat	2	10 μM	0	
268820	Purinergic P2Y, Non-Selective	494787	rat	2	10 μM	32	
270000	Rollipram	494687	rat	2	10 μM	-5	
271110	Serotonin (5-Hydroxytryptamine) 5-HT _{1A}	494765	hum	2	10 μM	3	
271700	Serotonin (5-Hydroxytryptamine) 5-HT _{2A}	494674	hum	2	10 μM	-2	
271910	Serotonin (5-Hydroxytryptamine) 5-HT _{2B}	494693	hum	2	10 μM	1	
299034	Sigma σ ₁	494630	hum	2	10 μM	12	
279510	Sodium Channel, Site 2	494623	rat	2	10 μM	-3	
255520	Tachykinin NK ₁	494690	hum	2	10 μM	10	
285900	Thyroid Hormone	494764	rat	2	10 μM	-1	
220320	Transporter, Dopamine (DAT)	494615	hum	2	10 μM	7	
226400	Transporter, GABA	494727	rat	2	10 μM	3	
204410	Transporter, Norepinephrine (NET)	494614	hum	2	10 μM	7	

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
ham=Hamster; hum=Human

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC ₅₀ *
274030	Transporter, Serotonin (5-Hydroxytryptamine) (SERT)	494622	hum	2	10 μM	4	

Fig 10 Off-Target panel assay of PG-005 against 68 targets conducted by Eurofins Panlabs. No significant (>50% inhibition) off-target effect was observed at a concentration of 10 μM of PG-005.

Cytotoxicity and off-target effect of PG-006

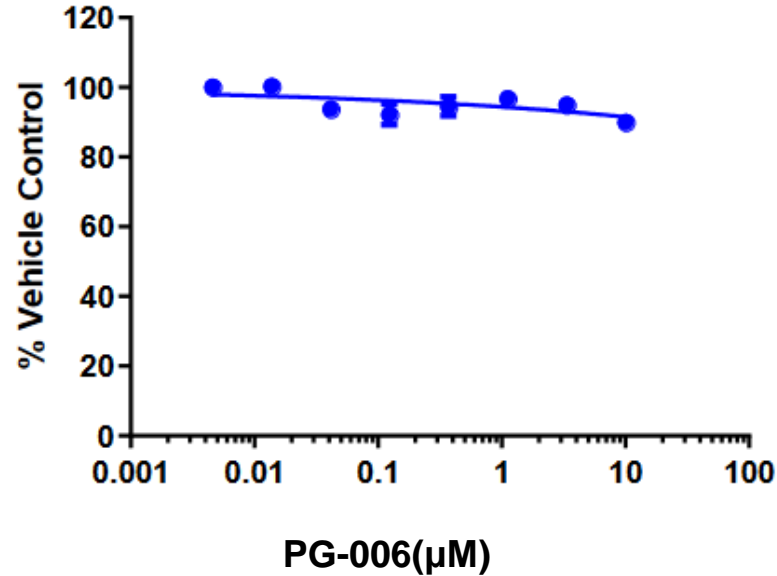


Fig 11 Cytotoxicity evaluation of PG-006 using HEK293. No significant cytotoxicity was observed at the concentration less than 10 μM of PG-006.

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC ₅₀ *
239710	Histamine H ₂	495873	hum	2	10 μM	3	
239820	Histamine H ₃	495845	hum	2	10 μM	10	
241000	Imidazoline I ₂ , Central	496060	rat	2	10 μM	-8	
243530	Interleukin IL-1 R1	496061	hum	2	10 μM	-8	
250460	Leukotriene, Cysteinyl CysLT ₁	495832	hum	2	10 μM	6	
251600	Melatonin MT ₁	496062	hum	2	10 μM	2	
252610	Muscarinic M ₁	495848	hum	2	10 μM	4	
252710	Muscarinic M ₂	495848	hum	2	10 μM	6	
252810	Muscarinic M ₃	495849	hum	2	10 μM	6	
257010	Neuropeptide Y Y ₁	495878	hum	2	10 μM	-3	
257110	Neuropeptide Y Y ₂	496066	hum	2	10 μM	10	
258700	Nicotinic Acetylcholine α1, Bungarotoxin	495874	hum	2	10 μM	-7	
258730	Nicotinic Acetylcholine α3β4	496012	hum	2	10 μM	-14	
260130	Opiate δ ₁ (OP1, DOP)	495891	hum	2	10 μM	14	
260210	Opiate κ (OP2, KOP)	495892	hum	2	10 μM	-4	
260410	Opiate μ (OP3, MOP)	495896	hum	2	10 μM	4	
264500	Phorbol Ester	496065	mouse	2	10 μM	1	
296037	Platelet Activating Factor (PAF)	496011	hum	2	10 μM	-7	
265600	Potassium Channel [K _{ATP}]	495970	ham	2	10 μM	3	
265910	Potassium Channel hERG, [H]Dofetilide	495833	hum	2	10 μM	26	
268420	Prostanoid EP ₄	496008	hum	2	10 μM	-11	
296036	Purinergic P2X	495877	rat	2	10 μM	-9	
268820	Purinergic P2Y, Non-Selective	495838	rat	2	10 μM	14	
270000	Rolipram	495879	rat	2	10 μM	2	
271110	Serotonin (5-Hydroxytryptamine) 5-HT _{1A}	495900	hum	2	10 μM	13	
271700	Serotonin (5-Hydroxytryptamine) 5-HT _{2B}	495910	hum	2	10 μM	24	
271910	Serotonin (5-Hydroxytryptamine) 5-HT ₃	495971	hum	2	10 μM	-15	
296034	Sigma α ₁	495980	hum	2	10 μM	15	
279510	Sodium Channel, Site 2	495960	rat	2	10 μM	-1	
255520	Tachykinin NK ₁	495889	hum	2	10 μM	21	
285900	Thyroid Hormone	495977	rat	2	10 μM	10	
220320	Transporter, Dopamine (DAT)	495881	hum	2	10 μM	14	
226400	Transporter, GABA	495854	rat	2	10 μM	-16	
204410	Transporter, Norepinephrine (NET)	495880	hum	2	10 μM	8	

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
ham=Hamster; hum=Human

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC ₅₀ *
Compound: PD-ABK567-AA-2, PT #: 1271065							
200510	Adenosine A ₁	496101	hum	2	10 μM	-17	
200610	Adenosine A _{2A}	495919	hum	2	10 μM	-8	
200720	Adenosine A ₃	496052	hum	2	10 μM	9	
203110	Adrenergic α _{1A}	495903	hum	2	10 μM	2	
203210	Adrenergic α _{1B}	495906	hum	2	10 μM	-5	
203400	Adrenergic α _{1C}	495904	hum	2	10 μM	-2	
203630	Adrenergic α _{2A}	495979	hum	2	10 μM	-2	
204010	Adrenergic β ₁	495872	hum	2	10 μM	-4	
204110	Adrenergic β ₂	495890	hum	2	10 μM	17	
206000	Androgen (Testosterone)	495844	hum	2	10 μM	2	
212520	Bradykinin B ₁	495847	hum	2	10 μM	2	
212620	Bradykinin B ₂	495905	hum	2	10 μM	-3	
214510	Calcium Channel L-Type, Benzothiazepine	495883	rat	2	10 μM	0	
214600	Calcium Channel L-Type, Dihydropyridine	495965	rat	2	10 μM	4	
216000	Calcium Channel N-Type	495884	rat	2	10 μM	-11	
217050	Cannabinoid CB ₁	495911	hum	2	10 μM	-8	
219500	Dopamine D ₁	496074	hum	2	10 μM	-11	
219700	Dopamine D _{2S}	496054	hum	2	10 μM	10	
219800	Dopamine D ₃	496053	hum	2	10 μM	-3	
220000	Dopamine D _{4L}	496059	hum	2	10 μM	-5	
224010	Endothelin ET _A	495885	hum	2	10 μM	10	
224110	Endothelin ET _B	495886	hum	2	10 μM	11	
225510	Epidermal Growth Factor (EGF)	495846	hum	2	10 μM	11	
226010	Estrogen ERα	495973	hum	2	10 μM	17	
226600	GABA _A , Flunitrazepam, Central	495902	rat	2	10 μM	4	
226500	GABA _A , Muscimol, Central	496023	rat	2	10 μM	0	
228610	GABA _A α _{1A}	495907	hum	2	10 μM	30	
232030	Glucocorticoid	495967	hum	2	10 μM	24	
232710	Glutamate, Kainate	496013	rat	2	10 μM	14	
232810	Glutamate, NMDA, Agonism	495887	rat	2	10 μM	1	
232910	Glutamate, NMDA, Glycine	495888	rat	2	10 μM	9	
233000	Glutamate, NMDA, Phencyclidine	496018	rat	2	10 μM	-3	
239610	Histamine H ₁	495857	hum	2	10 μM	12	

Note: Items meeting criteria for significance (≥50% stimulation or inhibition) are highlighted.
* Batch: Represents compounds tested concurrently in the same assay(s).
ham=Hamster; hum=Human

Cat #	Assay Name	Batch*	Spec.	Rep.	Conc.	% Inh.	IC ₅₀ *
274030	Transporter, Serotonin (5-Hydroxytryptamine) (SERT)	495974	hum	2	10 μM	10	

Fig 12 Off-Target panel assay of PG-006 against 68 targets conducted by Eurofins Panlabs. No significant (>50% inhibition) off-target effect was observed at a concentration of 10 μM of PG-006.

Stability test of PG peptides in medium

ID	day1	day3	day7
PG-001	103	105	101
PG-002	98	95	92
PG-003	99	103	91
PG-004	104	103	102
PG-005	103	91	99
PG-006	102	101	97

(% remaining)

Experimental condition

PG peptides were dissolved in advanced DMEM/F-12 medium (without serum) at a concentration of 0.1 μ M and incubated at 37°C. At certain time of incubation, samples were analyzed by LC/MS(Thermo Q-exactive) and the peak area was compared with the initial peak area (calculated as 100%) of each sample. n=2.