



cAMP Hunter[®] Liraglutide Bioassay

Qualified with Victoza[®]

[95-0062Y2-00099](#) (2-Plate Kit)

[95-0062Y2-00100](#) (10-Plate Kit)

OUR EXPERTISE
IN YOUR HANDS.

DISCOVER
CONFIDENTLY.

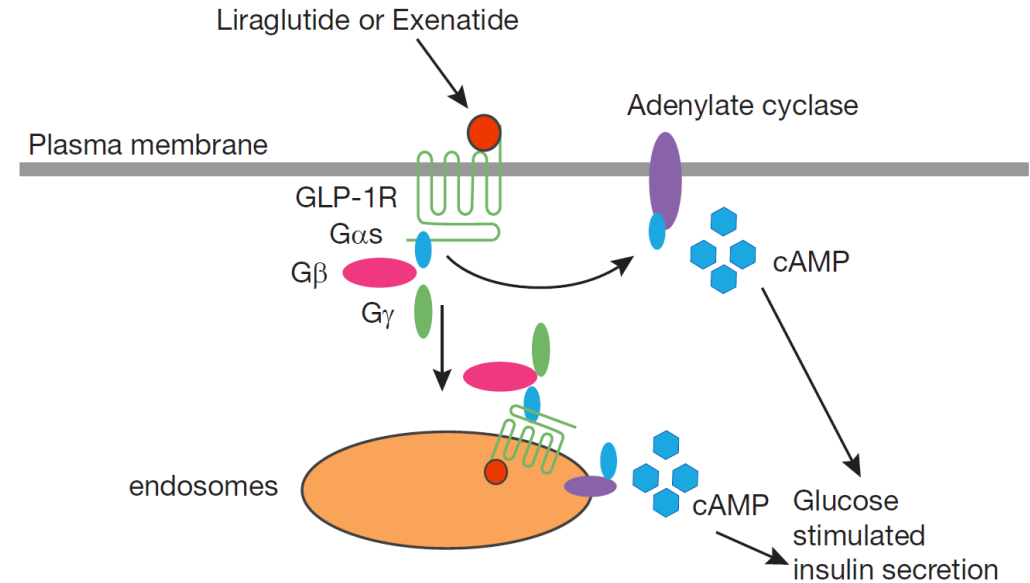
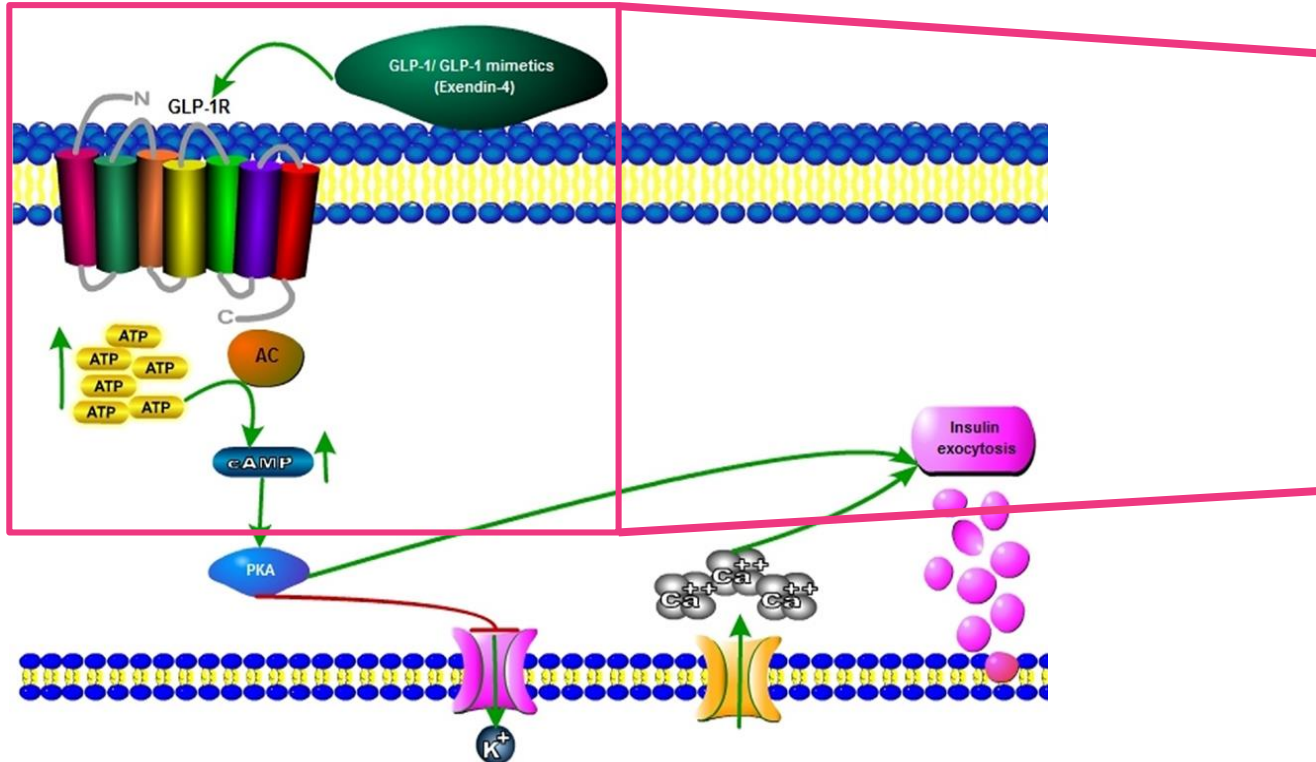
Liraglutide (Victoza[®])

For Treatment of Type II Diabetes mellitus

Mechanism of Action



Assay Principle



Source: Sebastião et. al., *Front. Endocrinol.* (2014); 5, 110

cAMP Hunter[®] Liraglutide Bioassay Kit

Kit Components

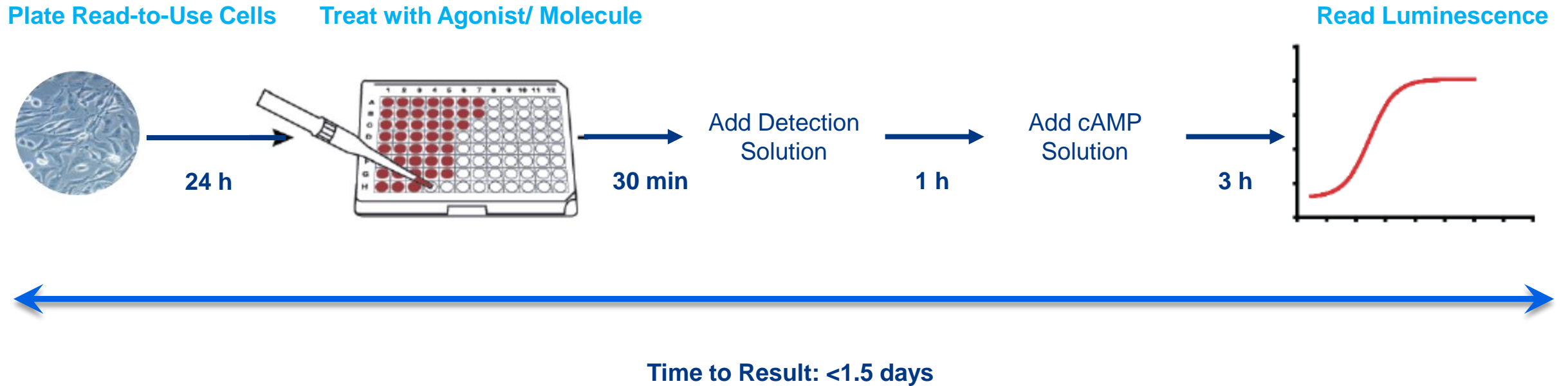
List of Components	95-0062Y2-00099	95-0062Y2-00100
cAMP Hunter CHO-K1 GLP1R Bioassay Cells	2 vials	10 vials
cAMP Detection Kit for Bioassays		
cAMP Standard (250 µM) (mL)	0.2	1
cAMP Antibody Reagent (mL)	5	25
cAMP Lysis Buffer (mL)	7.6	38
Substrate Reagent 1 (mL)	2	10
Substrate Reagent 2 (mL)	0.4	2
cAMP Solution D (mL)	10	50
cAMP Solution A (mL)	16	80
Cell Assay Buffer	1 X 50 mL	2 X 50 mL
AssayComplete™ Cell Plating Reagent 2	1 x 100 mL	2 X 100 mL
Protein Dilution Buffer- B2	1 X 50 mL	2 X 50 mL
Control Agonist (Exendin-4)	1 vial	1 vial
96-Well Clear-Bottom TC Treated, Sterile Plates w/Lid	2 plates	10 plates

Sample data

Liraglutide Bioassay Qualification

Bioassay Workflow

Simple, Homogenous and Rapid Protocol

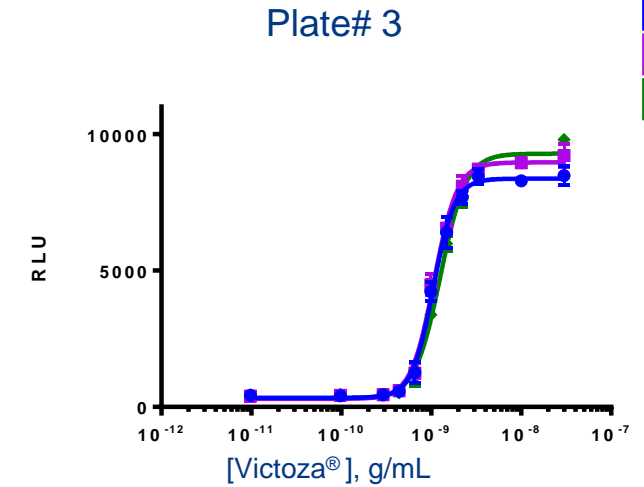
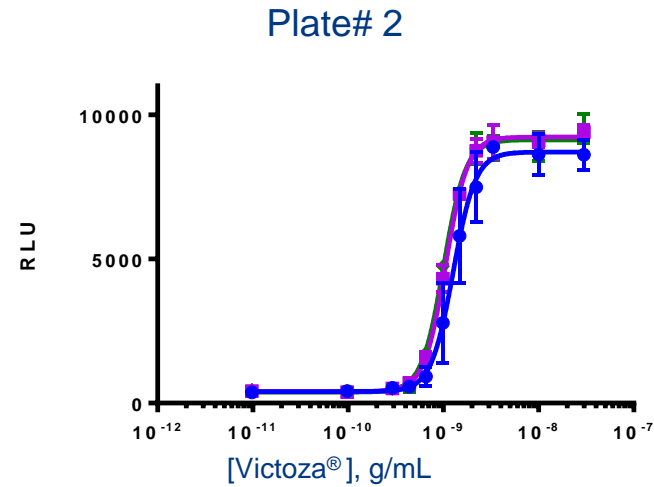
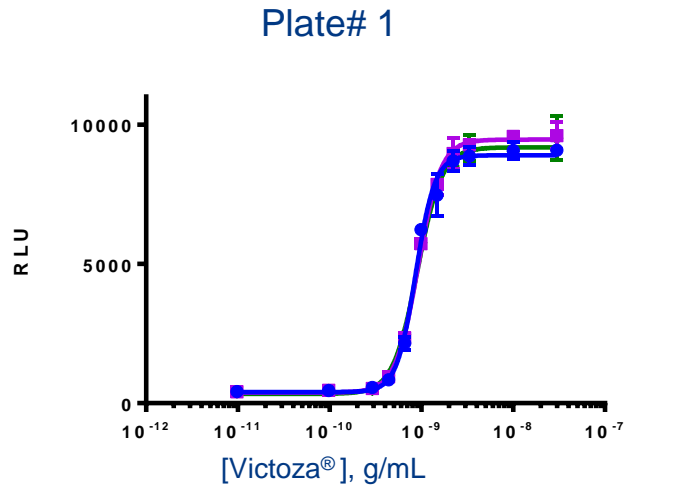


Assay Parameters Assessed

- % CV between 8 full plate DRCs
- Plate uniformity: EC_{80} and IC_{80} (of drug and stimulus) across entire plate
- Plate-to-Plate variability: 3 plates with full plate DRCs run on 3 days
- Slope consistency
- Relative potency across range of 50-150%
- Parallelism of relative potency data from two operators
 - Assay developer
 - Assay qualifier

Liraglutide Bioassay Qualification with Victoza®

Plate-to-plate variability: 3 plates with full-plate DRC - Same Day



Parameter	R1	R2	R3
S/B	26.7	24.0	21.6
Hill Slope	4.168	3.530	3.266
EC ₅₀ (ng/mL)	0.877	0.922	0.905

Parameter	R1	R2	R3
S/B	20.5	20.9	21.2
Hill Slope	3.728	3.832	3.769
EC ₅₀ (ng/mL)	1.27	1.06	1.010

Parameter	R1	R2	R3
S/B	22.3	22.0	23.9
Hill Slope	3.651	3.369	3.039
EC ₅₀ (ng/mL)	1.052	1.077	1.264

Assay Robustness

Repeatability and Intermediate Precision (Inter-Plate)

Plate	Sample	S/B	%RSD, S/B	EC ₅₀ , ng/mL	Mean EC ₅₀ , ng/mL	%RSD, EC ₅₀
1	R1	26.7	10.6	0.87	0.90	3.1
	R2	24.0		0.92		
	R3	21.6		0.90		
2	R1	20.5	1.7	1.27	1.11	12.4
	R2	20.9		1.06		
	R3	21.2		1.01		
3	R1	22.3	4.5	1.05	1.13	10.2
	R2	22.0		1.08		
	R3	23.9		1.26		

Intermediate Precision (Inter-Day)

Day	EC ₅₀ , ng/mL	Mean EC ₅₀ , ng/mL	%RSD, EC ₅₀
1	1.14	1.25	21.4
2	1.55		
3	1.05		

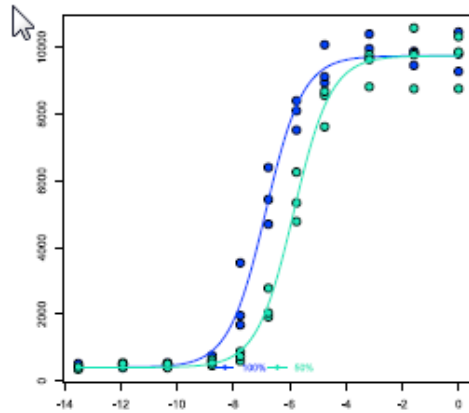
Intermediate Precision (Inter-Plate): 8.6%
Intermediate Precision (Inter-Day): 21.4%

Liraglutide Bioassay Qualification with Victoza®

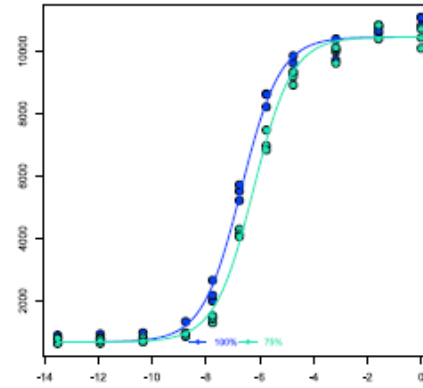
Parallelism and Potency Estimation (PLA)

Analyst 1

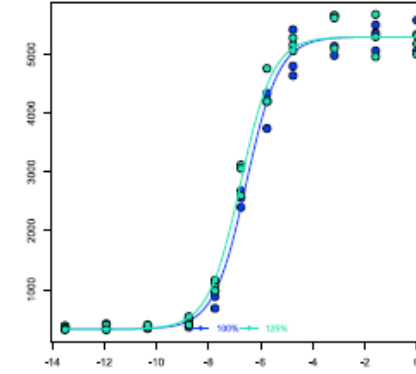
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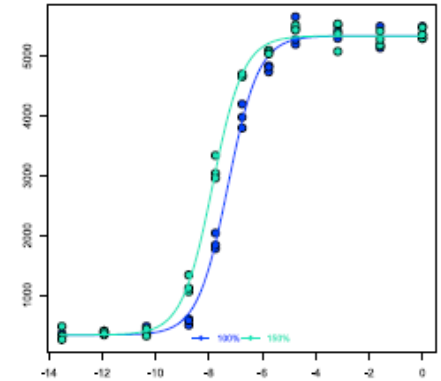
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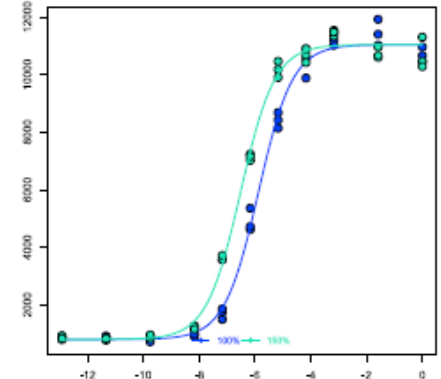
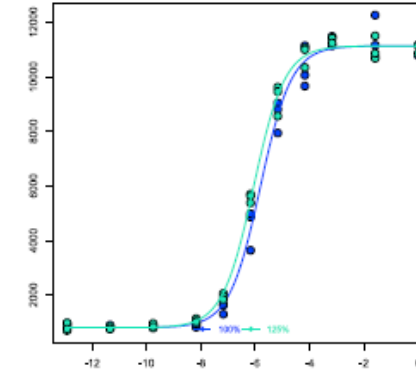
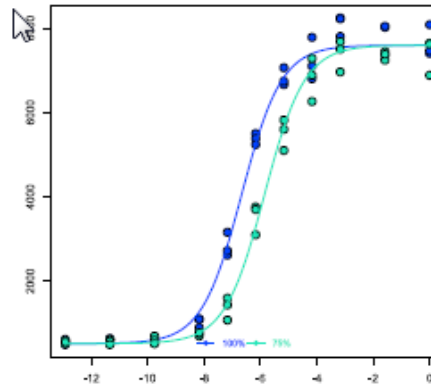
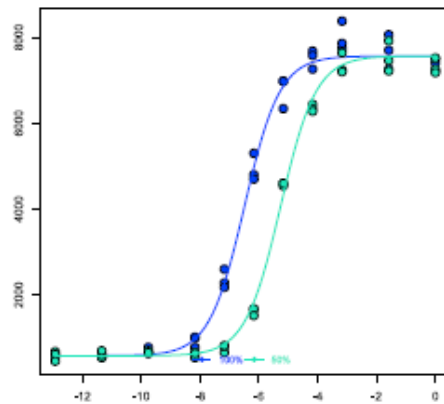
125%



150%



Analyst 2

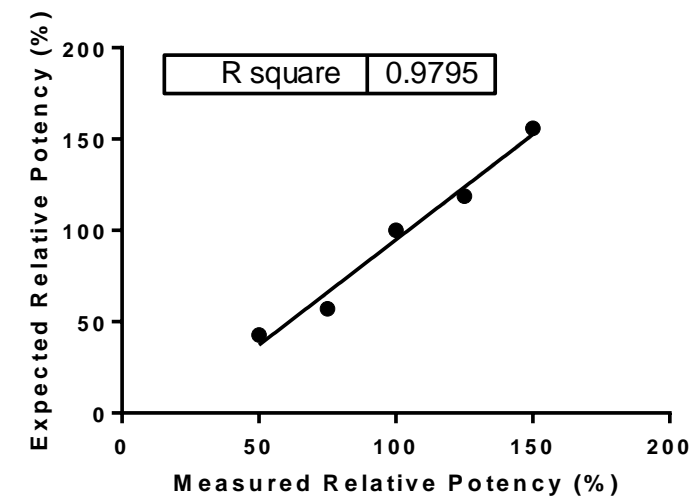


● Reference ● Sample

Liraglutide Bioassay Qualification with Victoza®

Summary: Accuracy, Precision and Dilutional Linearity (2 Analysts)

Expected RP (%)	Exp #	Analyst #	Measured RP (%)	Average RP (%)	% RSD	% Recovery
150	1	1	165.6	155.73	7.15	103.9
	2	1	149.1			
	3	1	152.3			
	4	2	155.9			
125	1	1	116.3	130.10	19.36	96.1
	2	1	114.2			
	3	1	134			
	4	2	155.9			
75	1	1	88	69.70	13.95	85.8
	2	1	60.9			
	3	1	72.9			
	4	2	57			
50	1	1	50	49.18	4.46	94.0
	2	1	52.7			
	3	1	51.3			
	4	2	42.7			



Accuracy: 98.4%

Precision: 8.6%

Benefits for “Ready-to-Use” Bioassay Kits

Functional response based on drug MOA
Verified and Qualified with innovator’s marketed drug
Simple protocol; Rapid results
Specific and Sensitive assay
Highly reproducible

Readily Implement with Optimized kit

- Frozen ready-to-assay cells
- Bioassay Detection Reagents
- Cell Plating Reagent
- Dilution Buffer
- Control Agonist
- Tissue Culture-Treated Plates

For More Info, Questions or Technical Support



Web:

[Cell-Based Bioassays for Biologics](#)

Technical Support

DRX_SupportUS@eurofinsUS.com