LTEK Co., Ltd

LTEK INNO-Q

Microplate Spectrophotometer

Absorbance Test Plate

New generation for Microplate spectrophotometers is here

LTek

Microplate Spectrophotometer Absorbance Test Plate

INNO-Q™ (Absorbance Test Plate)

The LTEK™ INNO microplate spectrophotometer is a 21st century new generation instrument for all the researches that deals with the absorbance and luminescence. INNO-Q is an absorbance test plate that is designed and manufactured just for INNO & INNO-M for the instrument performance check. It allows the users to be able to check the instrument's quality by checking the linearity, accuracy and alignment. Also, it comes in handy when the distributors are performing the demonstrations with their customers by using the quantitative experiment function with our software INNO-X. Allowing to review with 7 different regressions data results and calibration value with format of graphs.

LTEK INNO-Q™ (Absorbance Test Plate)

INNO-Q™ (Absorbance Test Plate)

· Linearity Check
· Accuracy Check
· Alignment Check
· Easy demonstration for the instrument performance by using Quantitative experiment function.

• INNO-Q

Able to check out the performance of the instrument.

INNO & INNO-M Linearity, Accuracy, & Alignment Test

Reader model: INNO & INNO-M

First 450nm measurement

Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.178	0.323	0.668	1.107	2.208	OVER	0	0
B	0	OVER	0	OVER	0.178	0.323	0.668	1.106	2.201	OVER	0	0
C	0	0	OVER	OVER	0.178	0.323	0.668	1.106	2.208	OVER	0	0
D	0	OVER	0	OVER	0.178	0.323	0.668	1.107	2.201	OVER	0	0
E	0	0	OVER	OVER	0.179	0.323	0.668	1.106	2.212	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

Wavelength:			450									
Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.179	0.323	0.668	1.107	2.189	OVER	0	0
B	0	OVER	0	OVER	0.178	0.323	0.668	1.106	2.198	OVER	0	0
C	0	0	OVER	OVER	0.178	0.324	0.668	1.106	2.2	OVER	0	0
D	0	OVER	0	OVER	0.178	0.324	0.669	1.107	2.191	OVER	0	0
E	0	0	OVER	OVER	0.179	0.324	0.668	1.105	2.196	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

Wavelength:			450									
Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.179	0.323	0.668	1.107	2.19	OVER	0	0
B	0	OVER	0	OVER	0.178	0.323	0.668	1.106	2.188	OVER	0	0
C	0	0	OVER	OVER	0.178	0.324	0.668	1.106	2.197	OVER	0	0
D	0	OVER	0	OVER	0.179	0.323	0.668	1.107	2.186	OVER	0	0
E	0	0	OVER	OVER	0.179	0.324	0.668	1.106	2.193	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

Wavelength:			450									
Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.178	0.323	0.668	1.107	2.188	OVER	0	0
B	0	OVER	0	OVER	0.178	0.323	0.668	1.107	2.193	OVER	0	0
C	0	0	OVER	OVER	0.178	0.323	0.669	1.106	2.197	OVER	0	0
D	0	OVER	0	OVER	0.178	0.324	0.669	1.107	2.195	OVER	0	0
E	0	0	OVER	OVER	0.178	0.323	0.668	1.106	2.19	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

Wavelength:			450									
Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.179	0.324	0.668	1.107	2.191	OVER	0	0
B	0	OVER	0	OVER	0.178	0.323	0.668	1.107	2.193	OVER	0	0
C	0	0	OVER	OVER	0.178	0.323	0.669	1.106	2.196	OVER	0	0
D	0	OVER	0	OVER	0.178	0.324	0.669	1.108	2.196	OVER	0	0
E	0	0	OVER	OVER	0.179	0.324	0.669	1.107	2.187	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

405nm measurement

Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.195	0.351	0.743	1.284	2.569	OVER	0	0
B	0	OVER	0	OVER	0.195	0.35	0.743	1.283	2.579	OVER	0	0
C	0	0	OVER	OVER	0.195	0.35	0.748	1.283	2.588	OVER	0	0
D	0	OVER	0	OVER	0.195	0.35	0.748	1.284	2.56	OVER	0	0
E	0	0	OVER	OVER	0.195	0.35	0.748	1.282	2.579	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

Wavelength:			450									
Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.178	0.325	0.67	1.109	2.206	OVER	0	0
B	0	OVER	0	OVER	0.178	0.325	0.67	1.108	2.206	OVER	0	0
C	0	0	OVER	OVER	0.178	0.324	0.67	1.109	2.208	OVER	0	0
D	0	OVER	0	OVER	0.178	0.324	0.67	1.108	2.21	OVER	0	0
E	0	0	OVER	OVER	0.178	0.324	0.67	1.107	2.213	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

Wavelength:			490									
Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.152	0.297	0.538	1.064	2.111	OVER	0	0
B	0	OVER	0	OVER	0.152	0.296	0.538	1.065	2.115	OVER	0	0
C	0	0	OVER	OVER	0.151	0.296	0.537	1.065	2.117	OVER	0	0
D	0	OVER	0	OVER	0.152	0.296	0.537	1.065	2.12	OVER	0	0
E	0	0	OVER	OVER	0.152	0.296	0.538	1.063	2.107	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

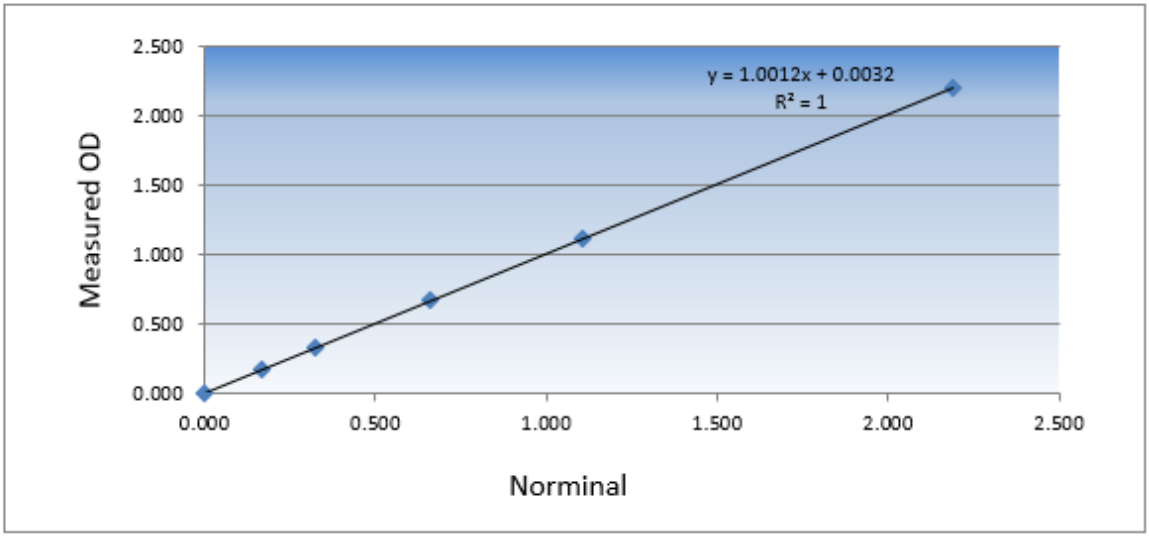
Wavelength:			540									
Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.142	0.284	0.565	1.043	2.072	OVER	0	0
B	0	OVER	0	OVER	0.142	0.284	0.565	1.043	2.074	OVER	0	0
C	0	0	OVER	OVER	0.141	0.283	0.565	1.042	2.071	OVER	0	0
D	0	OVER	0	OVER	0.142	0.284	0.564	1.041	2.072	OVER	0	0
E	0	0	OVER	OVER	0.142	0.284	0.565	1.042	2.072	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

Wavelength:			620									
Well	1	2	3	4	5	6	7	8	9	10	11	12
A	0	0	OVER	OVER	0.146	0.293	0.533	1.027	2.036	OVER	0	0
B	0	OVER	0	OVER	0.145	0.293	0.532	1.026	2.041	OVER	0	0
C	0	0	OVER	OVER	0.145	0.298	0.532	1.025	2.048	OVER	0	0
D	0	OVER	0	OVER	0.145	0.293	0.532	1.026	2.044	OVER	0	0
E	0	0	OVER	OVER	0.145	0.293	0.532	1.025	2.056	OVER	0	0
F	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
G	0	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0
H	0	OVER	0	OVER	OVER	OVER	OVER	OVER	OVER	OVER	0	0

※ Above is the Microsoft Excel measurement result chart by pasted into the INNO-Q excel(provided at purchase).

INNO & INNO-M Linearity & Accuracy

	1	2	3	4	5	6	7	8	9	10	11	12
A	0.000	0.000	9.999	9.999	0.179	0.323	0.668	1.107	2.193	9.999	0.000	0.000
B	0.000	9.999	0.000	9.999	0.178	0.323	0.668	1.106	2.195	9.999	0.000	0.000
C	0.000	0.000	9.999	9.999	0.178	0.323	0.668	1.106	2.200	9.999	0.000	0.000
D	0.000	9.999	0.000	9.999	0.178	0.324	0.669	1.107	2.194	9.999	0.000	0.000
E	0.000	0.000	9.999	9.999	0.179	0.324	0.668	1.106	2.197	9.999	0.000	0.000
F	0.000	9.999	OVER	9.999	OVER	OVER	OVER	OVER	OVER	9.999	0.000	0.000
G	0.000	0.000	9.999	9.999	OVER	OVER	OVER	OVER	OVER	9.999	0.000	0.000
H	0.000	9.999	0.000	9.999	OVER	OVER	OVER	OVER	OVER	9.999	0.000	0.000



Nominal	Blanked	CheckMark Plate		
Value	Value	Mean	Blanked	Std Dev
0.000	-0.001	0.000	0.000	0.000
0.17	0.169	0.178	0.178	0.000
0.321	0.320	0.323	0.323	0.000
0.66	0.659	0.668	0.668	0.000
1.1088	1.108	1.107	1.107	0.000
2.188	2.187	2.196	2.196	0.007

Measurment Wavelength Accuracy

wavelength	OD	-20%	20%	measured
405nm	0.746	0.597	0.895	0.748
450nm	0.667	0.534	0.800	0.668
490nm	0.597	0.478	0.716	0.598
540nm	0.565	0.452	0.678	0.565
620nm	0.589	0.471	0.707	0.592

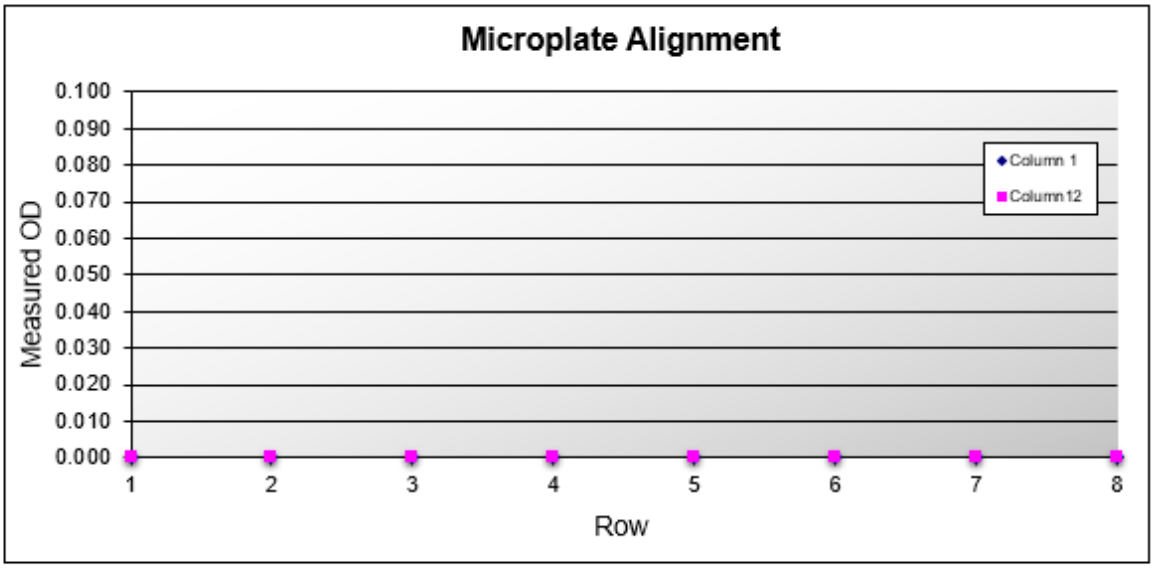
LINEARITY & ACCURACY RESULTS

Linearity relative to Nominal	TRUE
405 nm	TRUE
450 nm	TRUE
490 nm	TRUE
540 nm	TRUE
620 nm	TRUE

INNO & INNO-M Microplate Alignment

Averages

	1	2	3	4	5	6	7	8	9	10	11	12
A	0.000	0.000	9.999	9.999	0.179	0.323	0.668	1.107	2.193	9.999	0.000	0.000
B	0.000	9.999	0.000	9.999	0.178	0.323	0.668	1.106	2.195	9.999	0.000	0.000
C	0.000	0.000	9.999	9.999	0.178	0.323	0.668	1.106	2.200	9.999	0.000	0.000
D	0.000	9.999	0.000	9.999	0.178	0.324	0.669	1.107	2.194	9.999	0.000	0.000
E	0.000	0.000	9.999	9.999	0.179	0.324	0.668	1.106	2.197	9.999	0.000	0.000
F	0.000	9.999	OVER	9.999	OVER	OVER	OVER	OVER	OVER	9.999	0.000	0.000
G	0.000	0.000	9.999	9.999	OVER	OVER	OVER	OVER	OVER	9.999	0.000	0.000
H	0.000	9.999	0.000	9.999	OVER	OVER	OVER	OVER	OVER	9.999	0.000	0.000

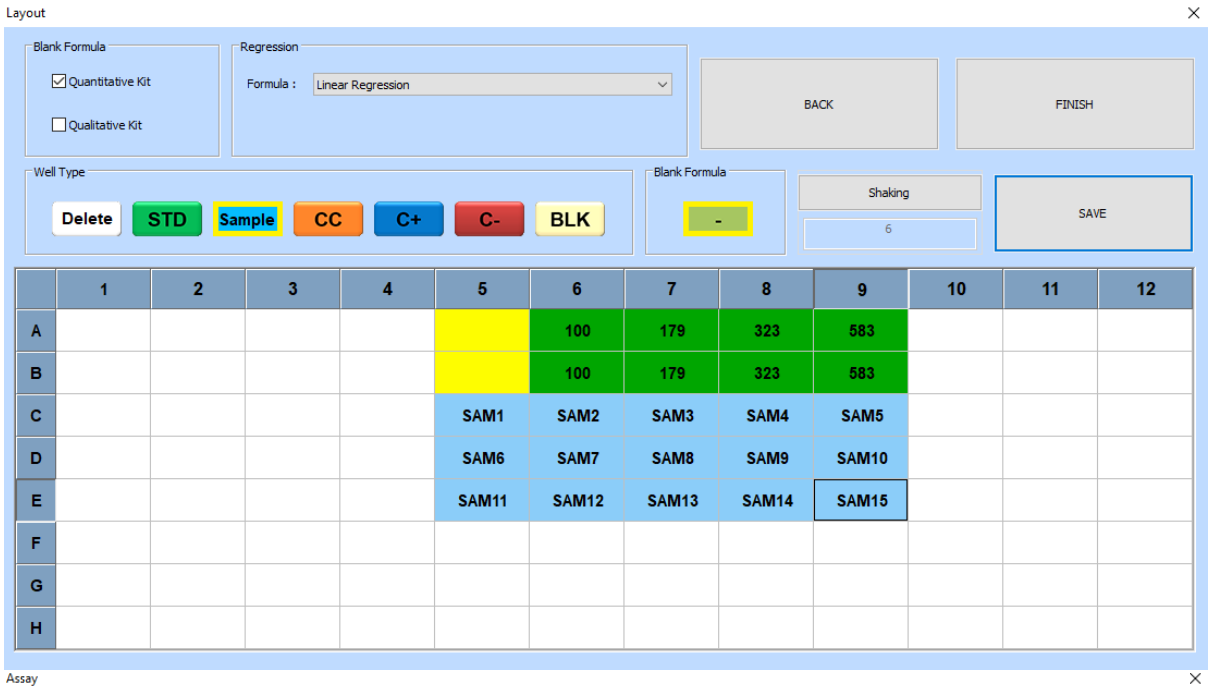


Alignment	
Mean Column 1	0.000
Mean Column 12	0.000
Standard Deviation (p) Column 1	0.000
Standard Deviation (p) Column 12	0.000
Thresholds value	0.015
Slope Column 1	0.000
Slope Column 12	0.000

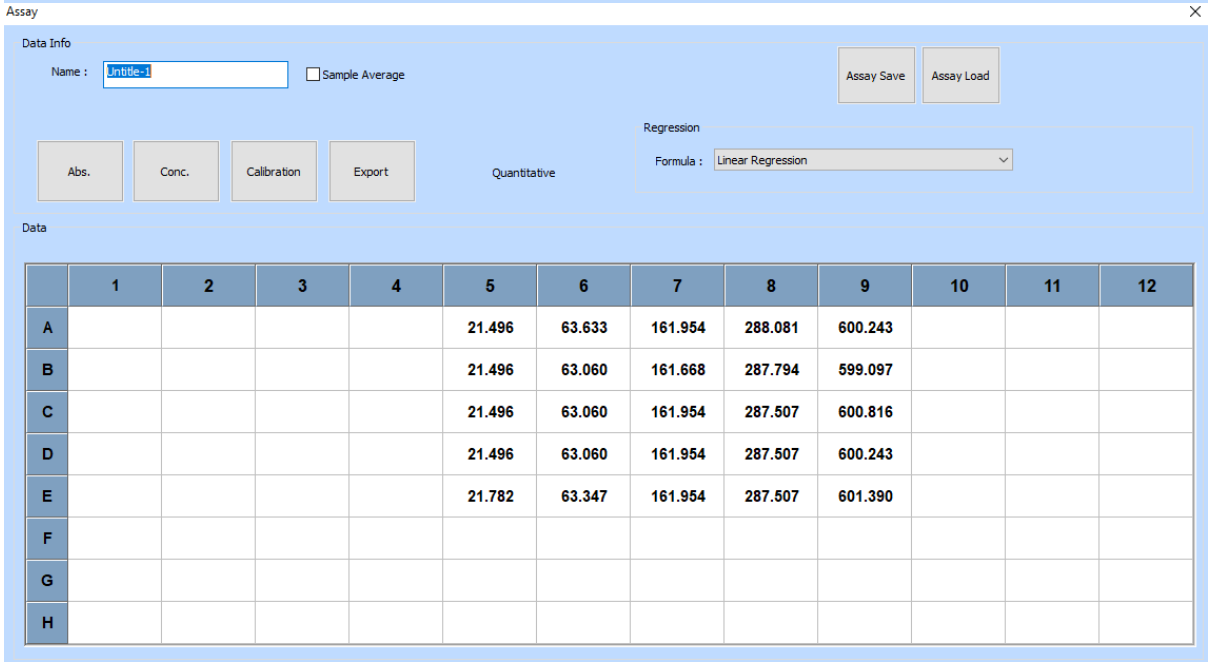
ALIGNMENT RESULTS

Alignment Column 1:	TRUE
Alignment Column 12:	TRUE
Alignment Left to Right	TRUE

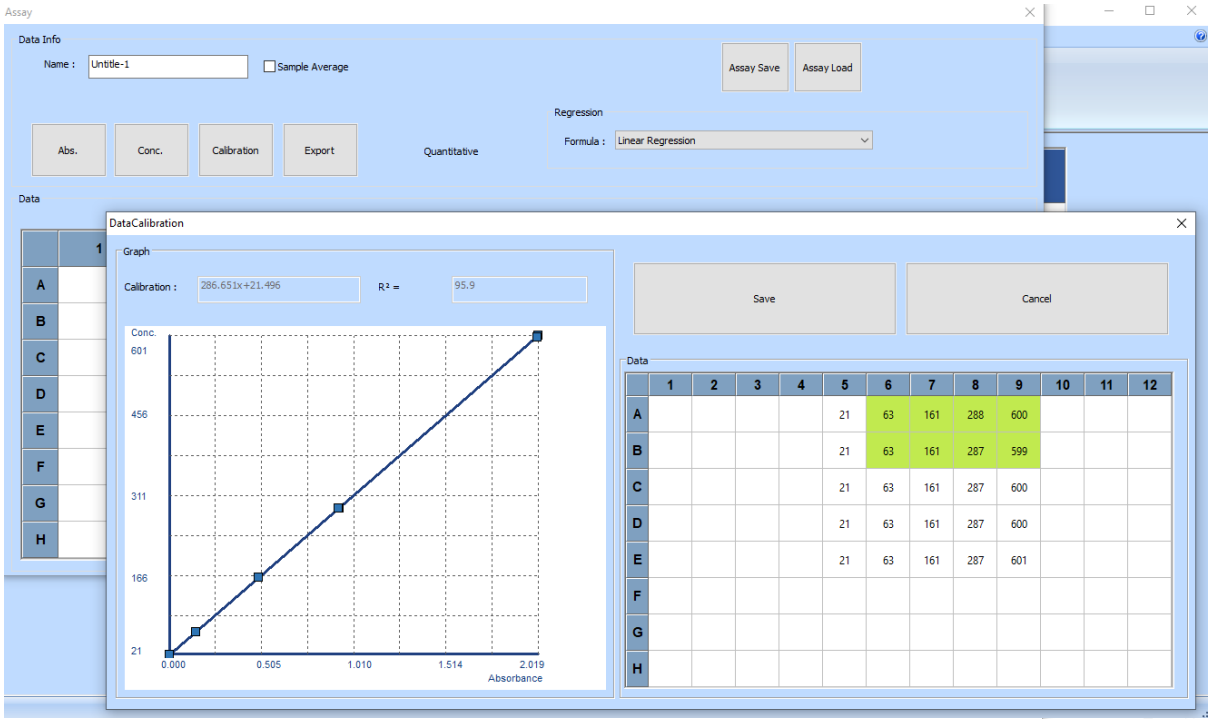
Quantitative Experiment Measurement

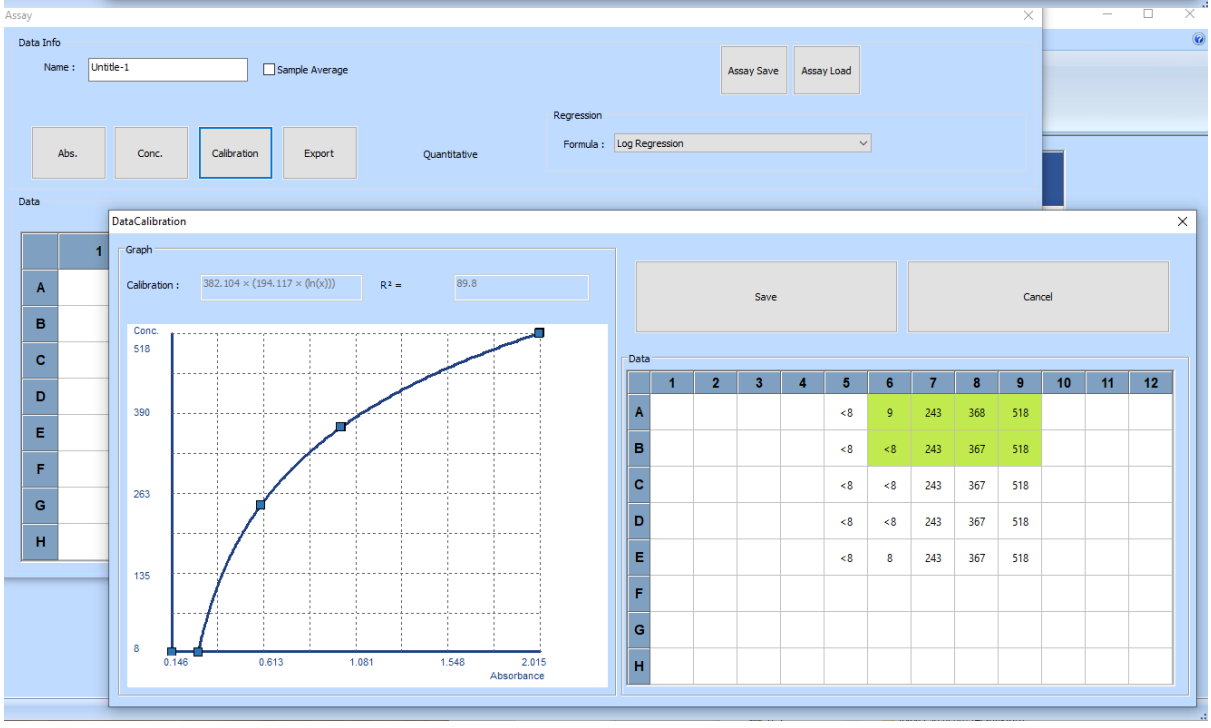


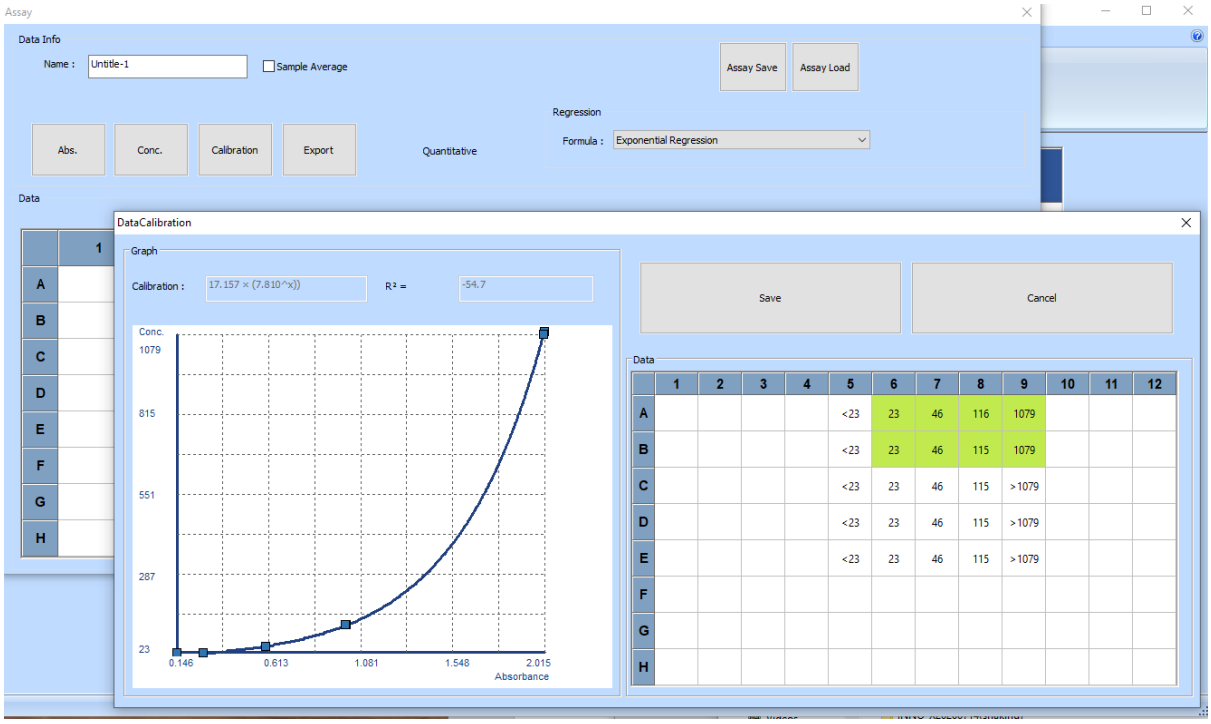
	1	2	3	4	5	6	7	8	9	10	11	12
A						100	179	323	583			
B						100	179	323	583			
C					SAM1	SAM2	SAM3	SAM4	SAM5			
D					SAM6	SAM7	SAM8	SAM9	SAM10			
E					SAM11	SAM12	SAM13	SAM14	SAM15			
F												
G												
H												



	1	2	3	4	5	6	7	8	9	10	11	12
A					21.496	63.633	161.954	288.081	600.243			
B					21.496	63.060	161.668	287.794	599.097			
C					21.496	63.060	161.954	287.507	600.816			
D					21.496	63.060	161.954	287.507	600.243			
E					21.782	63.347	161.954	287.507	601.390			
F												
G												
H												


Assay
Data Info
Name : Untitle-1
Sample Average
Assay Save
Assay Load
Abs.
Conc.
Calibration
Export
Quantitative
Regression
Formula : Linear Regression
Data
DataCalibration
Graph
Calibration : 286.651x+21.496
R² = 95.9
Save
Cancel
Conc.
601
456
311
166
21
0.000
0.505
1.010
1.514
2.019
Absorbance
Data
1 2 3 4 5 6 7 8 9 10 11 12
A 21 63 161 288 600
B 21 63 161 287 599
C 21 63 161 287 600
D 21 63 161 287 600
E 21 63 161 287 601
F
G
H


Assay
Data Info
Name : Untitle-1
Sample Average
Assay Save
Assay Load
Abs.
Conc.
Calibration
Export
Quantitative
Regression
Formula : Log Regression
Data
DataCalibration
Graph
Calibration : 382.104 × (194.117 × (ln(x)))
R² = 89.8
Save
Cancel
Conc.
518
390
263
135
8
0.146
0.613
1.081
1.548
2.015
Absorbance
Data
1 2 3 4 5 6 7 8 9 10 11 12
A <8 9 243 368 518
B <8 <8 243 367 518
C <8 <8 243 367 518
D <8 <8 243 367 518
E <8 8 243 367 518
F
G
H



※ INNO-Q (Absorbance test plate) is not only for the instrument performance check but also is a tool for 3Qs (IQ, OQ, & PQ).

※ INNO-Q allows you to test and analyze variety of tests by using our software INNO-X without having to use actual Linear, Quadratic, Cubic, Log, Exponential, Point to point, and 4PL regression types of reagents.

Key features of the INNO & INNO-M Microplate Spectrophotometer

· Monochromator-based optical system for free selection of wavelengths from 200nm to 1000nm.

· No filter is needed for these readings.

· INNO is able to read microplate with 6 ~ 384 wells

· INNO can perform endpoint, Kinetics reading, and spectral scanning· Both photometric acuity and linearity of INNO-M, it should be 0-2,000 OD +/- 1%.

· INNO is able to be used in all studies such as routine biology tests, protein analysis, nucleic acidity.

· Nano-V can analyze DNA/RNA quantities. (Micro volume plate / 24well supported)

· Plate capable of quantitative analysis with 2ul.

· The light source of INNO is the Xenon lamp.

· The software to be supplied with INNO-M; Abs, UV-Abs, and modes, Endpoint, Kinetic and Spectral scanning.

· INNO-M is able to report result graphics in excel file format.

· INNO-M software supports Linear, Quadratic regression, Cubic regression, Log regression, Exponential regression, Linear logarithmic regression, point-to-point, and 4PL regression graphic options.

• Luminescence

· Detection method is Photomultiplier (PMT)

· Measuring Wavelength range is between 300nm to 700nm.

· Limit of Detection $3x10^{-21}$ moles.

LTEK

Specification for INNO and INNO-M

Absorbance	
Wavelength Accuracy	±2 nm
Electrical Requirements	INPUT 100 to 240V 50/60Hz / (65W Adaptor)
Microplate type	6 ~ 384 well plate
Detector	Photodiode
Light source	Xenon flash
Wavelength Range	200 to 999 nm
Wavelength selection	Monochromator
Application	Wavelength scanning, end point, Kinetic, Area scan
Dynamic range	0 ~ 4.0 OD
OD accuracy	0 ~ 2 OD ±1%
OD linearity	0 ~ 2 OD ±1%
OD repeatability	0 ~ 2 OD ±1%
Shaking	Two step speed
Software	INNO X (Windows Software)
DNA/RNA Micro Volume plate	**24well / 2ul Sample (Option)**
LUMINESCENCE	
Detector	Photomultiplier (PMT)
Wavelength range	300 – 700nm
Peak Wavelength	420nm
Limit of Detection (moles)	$3x10^{-21}$ moles
Supported software regression	Linear, Quadratic, Cubic, Log, Exponential, Linear logarithmic, point-to-point, 4PL
Weight	8kg
Size	333x303x245

Available products

Product name	Description
INNO	Microplate Spectrophotometer (Absorbance)
INNO-M	Microplate Spectrophotometer (Absorbance + Luminescence)
INNO-I	1.5ml Microcentrifuge Cuvette Type Luminometer (Luminescence)
INNO-N	Micro Volume Spectrophotometer
NANO-V(Option)	24 Wells / 2ul samples
INNO-Q(Option)	Absorbance Test Plate

Contact info

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