

LIAS

Luminant Image Analysis System

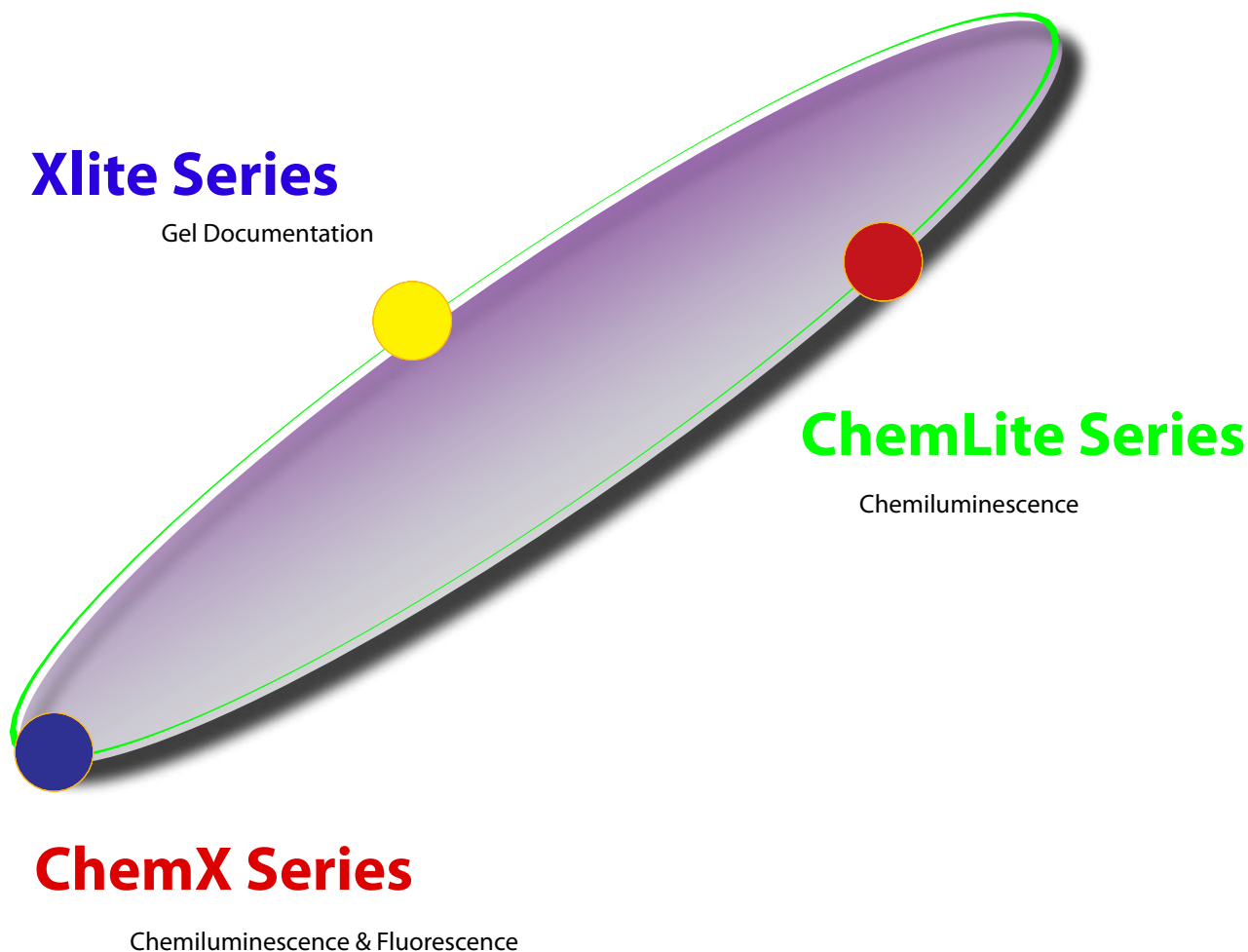
*Scientific Grade CCD based Imagers for Chemiluminescent,
Chemifluorescent, Fluorescent and Colorimetric Assays*



LIAS Families

There are three series available in LIAS. ChemX is the most high-end level imager for Chemiluminescence, Chemifluorescence, fluorescence and colometric imaging.

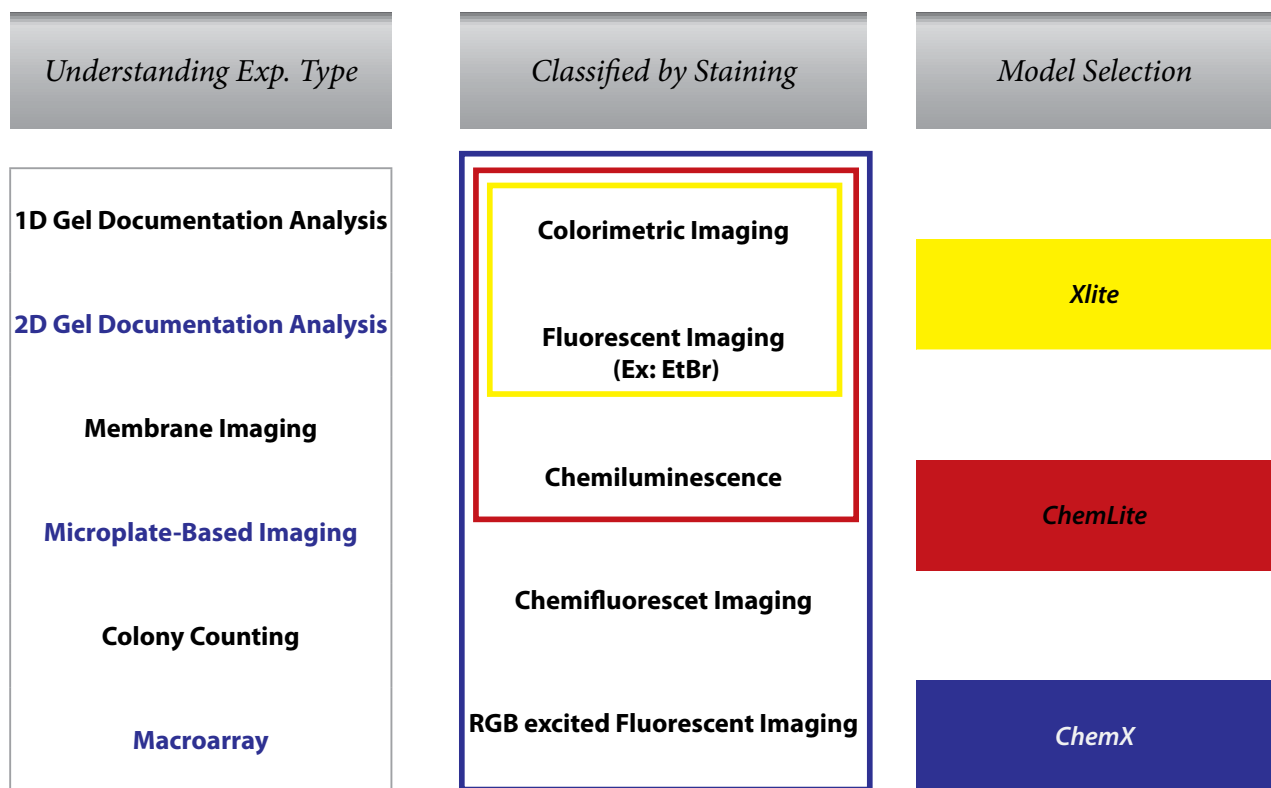
ChemLite is dedicated in image capture and analysis from Chemiluminescence assays. Xlite is providing the basic functions for gel image documentation.



Fulfill All Bio-Imaging Requirements

Three steps to choose the most appropriate LIAS. Firstly, simply look at what kind of assays required for image acquisition and analysis. Is it a qualitative or quantitative measurement? Secondly, choose the staining methods and make sure the object sizes in your assays. The last, pick up a proper LIAS system according to the above.

Contact Avegene to get the assist for LIAS selection.



Advanced Optics Design

High Performance Camera

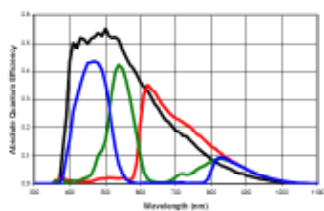
LIAS is equipped with high performance, scientific grade CCD camera, featuring high sensitivity, wide dynamic range as well as high resolution. Kodak progressive interline CCD chips are used in MIRA cameras providing from VGA resolution to 4M pixels, addressing a broad resolution coverage on all your needs in bioimage acquisition. Binning and low noise circuit designs generate a superior S/N ratio in LIAS. Its high sensitivity is also contributed by high efficient thermoelectric cooled CCD cameras.

D-Max is a proprietary technology to enhance the dynamic range during weak signal (light intensity) detection.

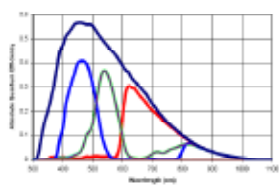
High sensitivity and high pixel resolutions

- ▲ Kodak scientific grade interline CCD sensors

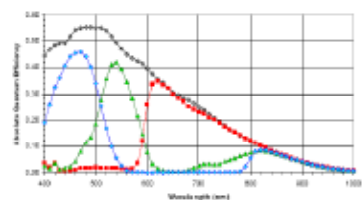
High quantum efficiency



KAI-0340



KAI-2020



KAI-4021

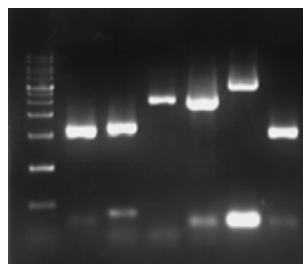
- ▲ Up to 4M pixels in resolution
- ▲ Three different resolutions offered (VGA, 2M and 4M)
- ▲ Binning mode
- ▲ 2 x 2, 4 X 4 binning mode

Superior signal to noise ratio

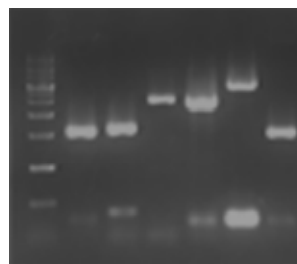
- ▲ Noise-reduced circuit design
- ▲ High efficient thermoelectric cooling to -35°C lower than ambient temperature

Wide dynamic range

- ▲ A/D: 12 / 14 bit
- ▲ D-max technology



After D-max applied



Before D-max applied

Filter & Illumination

6-position motor-driven filter turret and multiple illuminations make the versatility of LIAS. Only one-finger-touch enables to get accurate images from a variety of different fluorescent applications by Easy Access Guider which optimizes the setting of Filter, lens set as well as illumination. Lias's illuminations include the transilluminator and epi lighting.

Filter set

- ▲ 6 positions motor driven filter wheel
- ▲ 5 different filters available for different fluorescent imaging (Optional)

Multiple illumination

- ▲ Transilluminator (or back light)
- ▲ UVA / UVB / White
- ▲ Epi lighting
- ▲ Red / Green / Blue / White lighting module
- ▲ Epi white
- ▲ Epi UV** (optional)



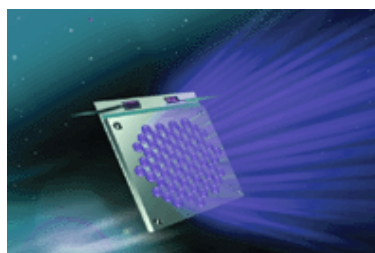
Experimental Method

Fluorescence & Chemifluorescence				Visible Stain	Chemiluminescence
Blue	Green	Red	UV	White	Dark
Attophos ECFP EGFP FAM FITC SYBR Gold SYBR Green I / II SYPRO Orange SYPRO Ruby SYPRO Tangerine	5-ROX Alexa 514 532 546 555 Alexa 568 594 BODIPY 576/589 Cy3 Deep Purple HEX HNPP NED Pro-Q Diamond RFP Rhodamine Red R-phycoerythrin SYPRO Red TAMRA Tetramathyrodamine	Alexa 633 635 647 660 680 BODIPY 650/665 Cy5 DiD DDAO phosphate TOTO-3	EtBr Fluorescein GFP SYBR Green I SYPRO Orange SYPRO Red SYPRO Ruby Texas Red	ProStain (VisPro) Silver Stain CBB Stain X-Ray Film NBT / BCIP	ECL ECL+ ECL Advance Lumi-Light Plus Renaissance Super Signal Bright-Star CDP-Star CSPD

* Contact Avegene Technical Support for more experimental applications

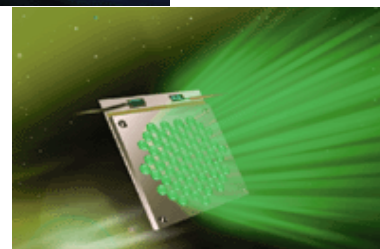
Epi R/G/B/W Illumination Module

LIAS ChemX supports 4 different color illuminations for specific fluorescent application. Following is the list of excitable staining dyes for Red / Green / Blue.



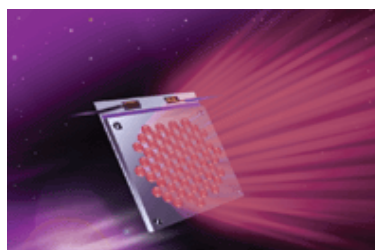
Blue (460nm)

SYBR® Green I & II, SYBR® Gold, SYPRO® Ruby, SYPRO® Orange, SYPRO® Tangerine, FITC, FAM™, EGFP, ECFP, AttoPhos™



Green (520nm)

SYPRO® Red, Cy™3, TMRA™, ROX™, HEX™, Alexa Fluor®532, Alexa Fluor®546, Deep Purple, Pro-Q™Diamond, Rhodamine Red™, BODIPY®576/589, NED™, R-phycoerythrin, RFP, HNPP



Red (630nm)

Alexa Fluor®633, Alexa Fluor®635, Alexa Fluor®647, Cy™5, BODIPY®650/665, DiD, TOTO®-3, DDAO phosphate,

Smart Light-Tight Cabinet

Easy, Safe and Smart

- ▲ Standalone (Easy-Touch Control Pad)
- ▲ Built-in 7" TFT LCD display
- ▲ Ease of handling with sliding door design
- ▲ USB image storage support
- ▲ Open door sensing
- ▲ Fast access mapping guider (One-touch smart experimental setting)
- ▲ PAG (Position Assist Grid)



Safety

- ▲ UV auto switch-off protection
- ▲ Auto idle mode (camera protection)
- ▲ Anti-contamination material

Flexibility & Extension

- ▲ Upgradeable CCD camera module
- ▲ Available for both standalone & PC controlled operational interfaces
- ▲ Instant printing support
- ▲ Firewire full digitalized output
- ▲ Multiple assays support



Analysis Software



Image Acquisition & Analysis

LIAS Xview

Xview is an image acquisition software package for LIAS. It consists of system control menu, image capture setting and image manipulation. Through FireWire, PC can be easy to connect with LIAS, that will automated detect if there exists PC connection. Xview will take the authority in LIAS operation from standalone operation when Xview is turned on.

GelVista

GelVista is a powerful tool in 1D image analysis. Intuition design makes a user-friendly interface that implements the analysis of band and lane detection, background subtraction, normalization, molecular weight & quantity calibration, report generation and colony counting, ...etc.

- ▲ 1D image analysis
- ▲ Image manipulation
- ▲ Auto band and lane detection
- ▲ Auto background subtraction
- ▲ Normalization
- ▲ Molecular weight & quantity calibration
- ▲ Reporting
- ▲ Colony counting.....

Optional Analysis Software

Nonlinear Dynamics is a leading worldwide provider of bioinformatics solutions to the life science industry. Established in 1989, our innovative product portfolio comprises high-quality analysis and data mining tools for 1D and 2D electrophoresis gels and microarrays, the core technologies of genomics and proteomics.

1D Gel Image Analysis

Nonlinear Dynamics has developed the TotalLab software range for the fast and accurate analysis of 1D gel images. Products in the range are:

- ▲ TL100 - entry level software for fast, consistent analysis
- ▲ TL120- for an in-depth and accurate automatic analysis approach and band pattern matching studies
- ▲ TL120 DM - TL120 complete with the DM database component allowing extensive data mining and comparative studies

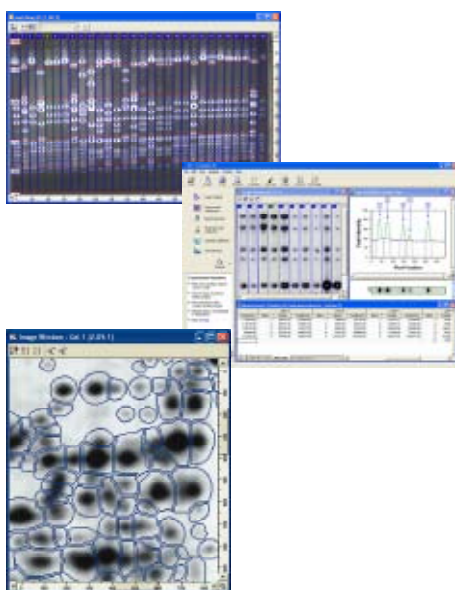
2D Gel Image Analysis

The Progenesis range contains analysis solutions for the proteomics researcher, including the SameSpots approach for the analysis of single stain or 2D DIGE images and Progenesis PG600 for biomarker screening.

The product lines are including:

- ▲ Phoretix 2D
- ▲ Progenesis PG 200 / 220 / 240

More detail information please visit Nonlinear Dynamics Ltd. <http://www.nonlinear.com/>



LIAS ChemX Series

Model-ChemX 200F / 200FA / 400FA



ChemX is a high-end level bioimaging system, with its versatility in Chemiluminescence, Chemifluorescence, Fluorescence and Colorimetric imaging. Like ChemLite, it equips a high quantum efficiency cooled CCD camera, large-diaphragm high performance lens set and a smart light-tight cabinet with MFP (movable focus Platform), producing the optimized results bioimage capture and analysis. Besides, ChemX provides Red / Green / Blue / White illumination modules, enabling a broad coverage of bio-image acquisition and analysis.

Avegene proprietary MIRA and D-Max technology contribute high sensitivity and dynamic range to ChemX. Built-in 7" TFT LCD makes an easier handling of object positioning and focus. Four-position movable focus platform (MFP) offers different FOV (field of view) selections that can suit your needs in image of different sizes of gels, membranes or microplates.

Easy Access Guider makes users to get the optimized optics setting (Lens, Filter, illumination) by one click.

Three models are available in ChemX, including 200F, 200FA and 400FA. 400FA is having an ultra-high resolution camera (4 Mega Pixel), instead of 2 Mega Pixel one assembled in 200F and 200FA. A fully motor-driven lens is applied in both 200FA and 400FA. An advanced Auto-Focus function makes a better image focus in 400FA.

Feature:

- ▲ For Chemiluminescence, Chemifluorescence, Fluorescence and Colorimetric imaging
- ▲ Up to 4M pixel, 14 bit, scientific grade, cooled CCD camera
- ▲ Superior S/N ratio (Signal to Noise)
- ▲ Increased sensitivity and dynamic range
 - D-Max Technology
 - Binning mode
- ▲ 4-position motor-driven Movable Focus Platform (MFP)
- ▲ Red / Green / Blue / White illumination modules
- ▲ 6-position filter wheel
- ▲ A computer-controlled lens, filter, and illumination
- ▲ 7" TFT LCD screen and sliding door to make easier object position and focus
- ▲ Two operational interfaces support (PC-Controlled & Standalone)

Spicification

Model		Chemifluorescence & Chemiluminescence	
		ChemX 200 FA / F	ChemX 400 FA
Cat#		AG-LA200F / A	AG-LA400FA
I. Image Capturing Unit			
Camera Set	CCD Sensor	Kodak KAI-2020	Kodak KAI-4021
	Pixel Size (µm, VxH)	7.4 x 7.4	7.4 x 7.4
	Dynamic Range	0 to 3.6 OD	0 to 4.2 OD
	Exposure Time	Up to 120 min	Up to 120 min
	Cooling Method	Thermoelectric	Thermoelectric
	Cooling Temperature	-35°C (Relative)	-35°C (Relative)
	Capture Resolution	2.0M; 1600x1200	4.0M; 2048x2048
	Bit Depth	12 bit	14 bit
Lens Set	PC Interface	IEEE 1394(FireWire)	IEEE 1394(FireWire)
	Lens Type	Fixed Focus Lens	Fixed Focus Lens
	Motor-driven Lens Operation	V / X	V
	Auto Focus	X	V
	Lens Mount	C-mount	C-mount
II. Intelligent Darkroom			
Filter Set	Filter Turret	Motor-Driven, 6 position	Motor-Driven, 6 position
	Emission Filter (One standard set; Five for optional order)	595nm (EtBr Stain)	595nm (EtBr Stain)
Control Set	Display Panel	Build-in 7" TFT LCD & PC	Build-in 7" TFT LCD & PC
	Standalone Control	Front Control Pad	Front Control Pad
	PC Control Interface	V (Windows XP)	V (Windows XP)
	Image Storage	USB Storage & PC	USB Storage & PC
	Motor Focus Platform (MFP)	Motor-driven, 4 locations	Motor-driven, 4 locations
Lighting Set	UV Transilluminator (26cm X 21cm)	V	V
	White Back Light	Optional	Optional
	Epi White Light	V	V
	Epi Blue Light	Optional	Optional
	Epi Green Light	Optional	Optional
	Epi Red Light	Optional	Optional
III. Software			
System Control & Image Capture	Avegene Xview	V	V
Analysis	1D or 2D Analysis	Optional	Optional
IV. General Info			
	Power	100V-240V	100V-240V
	Dimension (WxHxD)	620x1040x415mm	620x1040x415mm
	Weight	65Kg	65Kg
	Certification	UL,CE	UL,CE

Cat No	Product Name	Packing
AG-LA200F	LIAS ChemX 200F	Avegene Standard*
AG-LA200FA	LIAS ChemX 200FA	Avegene Standard*
AG-LA400FA	LIAS ChemX 400FA)	Avegene Standard*

LIAS ChemLite Series

Model-ChemLite 200F / 400F



ChemLite is a high performance bio-imaging system, a dedicated design for chemiluminescence image detection. It equips a high quantum efficiency cooled CCD camera, large-diaphragm high performance lens set and a smart light-tight cabinet with MFP (movable focus Platform), producing the optimized results for chemiluminescent image capture and analysis.

ChemLite's high sensitivity and dynamic range thank to Avegene proprietary MIRA and D-Max technology. Built-in 7" TFT LCD makes an easier handling of object positioning and focus. Four-position movable focus platform (MFP) offers different FOV (field of view) selections that can suit your needs in image of different sizes of gels, membranes or microplates.

There are two models available in ChemLite. 400F is having an ultra-high resolution camera (4 Mega Pixel), instead of 2 Mega Pixel one assembled in 200F.

Feature:

- ▲ **Dedicated for chemiluminescent imaging**
- ▲ **Up to 4M pixel, 14 bit, scientific grade, cooled CCD camera**
- ▲ **Superior S/N ratio (Signal to Noise)**
- ▲ **Increased sensitivity and dynamic range**
 - D-Max Technology
 - Binning mode
- ▲ **4-position motor-driven Movable Focus Platform (MFP)**
- ▲ **7" TFT LCD screen and sliding door to make easier object position and focus**
- ▲ **Two operational interfaces support (PC-Controlled & Standalone)**

Spicification

Model		Chemiluminescence	
		ChemLite 200 F	ChemLite 400 F
Cat#		AG-LA200CL	AG-LA400CL
I. Image Capturing Unit			
Camera Set	CCD Sensor	Kodak KAI-2020	Kodak KAI-4021
	Pixel Size (µm, VxH)	7.4 x 7.4	7.4 x 7.4
	Dynamic Range	0 to 3.6 OD	0 to 4.2 OD
	Exposure Time	Up to 120 min	Up to 120 min
	Cooling Method	Thermoelectric	Thermoelectric
	Cooling Temperature	-35°C (Relative)	-35°C (Relative)
	Capture Resolution	2.0M; 1600x1200	4.0M; 2048x2048
	Bit Depth	12 bit	14 bit
Lens Set	PC Interface	IEEE 1394(FireWire)	IEEE 1394(FireWire)
	Lens Type	Fixed Focus Lens	Fixed Focus Lens
	Motor-driven Lens Operation	X	X
	Auto Focus	X	X
	Lens Mount	C-mount	C-mount
II. Intelligent Darkroom			
Filter Set	Filter Turret	Motor-Driven, 6 position	Motor-Driven, 6 position
	Emission Filter (One standard set; Five for optional order)	595nm (EtBr Stain)	595nm (EtBr Stain)
Control Set	Display Panel	Build-in 7" TFT LCD & PC	Build-in 7" TFT LCD & PC
	Standalone Control	Front Control Pad	Front Control Pad
	PC Control Interface	V (Windows XP)	V (Windows XP)
	Image Storage	USB Storage & PC	USB Storage & PC
	Motor Focus Platform (MFP)	Motor-driven, 4 locations	Motor-driven, 4 locations
Lighting Set	UV Transillumintor (26cm X 21cm)	V	V
	White Back Light	Optional	Optional
	Epi White Light	V	V
	Epi Blue Light	X	X
	Epi Green Light	X	X
	Epi Red Light	X	X
III. Software			
System Control & Image Capture	Avegene Xview	V	V
Analysis	1D or 2D Analysis	Optional	Optional
IV. General Info			
	Power	100V-240V	100V-240V
	Dimension (WxHxD)	620x1040x415mm	620x1040x415mm
	Weight	60Kg	60Kg
	Certification	UL,CE	UL,CE

Cat No	Product Name	Packing
AG-LA200CL	LIAS ChemLite 200F	Avegene Standard*
AG-LA400CL	LIAS ChemLite 400F	Avegene Standard*

LIAS Xlite Series

Model-Xlite 30R / 200R



Xlite is a standalone gel documentation system featuring a combination of simplicity, versatility and reliability. It comes with a high quality scientific grade CCD camera, a built-in 7" TFT LCD panel and a smart cabinet, making the easiest handling of high quality bio-image acquisition and analysis.

Xlite is available in two models. Xlite 200R is having high resolution 2 mega pixel camera which replaces VGA resolution camera supplied with Xlite 30R.

Feature:

- ▲ **Dedicated for Gel, Film, Membrane and Fluorescence Imaging**
- ▲ **Up to 2M pixel, 12 bit, scientific grade, CCD camera**
- ▲ **Superior S/N ratio (Signal to Noise)**
- ▲ **Increased sensitivity and dynamic range**
 - D-Max Technology
 - Binning mode
- ▲ **7" TFT LCD screen and sliding door to make easier object position and focus**
- ▲ **Two operational interfaces support (PC-Controlled & Standalone)**

Spicification

Model		Gel Documentation & Analysis	
		Xlite 30 R	Xlite 200 R
Cat#		AG-LA030	AG-LA200R
I. Image Capturing Unit			
Camera Set	CCD Sensor	Kodak KAI-0340	Kodak KAI-2020
	Pixel Size (µm, VxH)	7.4 x 7.4	7.4 x 7.4
	Dynamic Range	0 to 3.6 OD	0 to 3.6 OD
	Exposure Time	Up to 120 sec	Up to 120 sec
	Cooling Method	None	None
	Cooling Temperature	None	None
	Capture Resolution	VGA; 640x480	2.0M; 1600x1200
	Bit Depth	12 bit	12 bit
Lens Set	PC Interface	IEEE 1394(FireWire)	IEEE 1394(FireWire)
	Lens Type	6 X Zoom Lens	6 X Zoom Lens
	Motor-driven Lens Operation	X	X
	Auto Focus	X	X
	Lens Mount	C-mount	C-mount
II. Intelligent Darkroom			
Filter Set	Filter Turret	Motor-Driven, 6 position	Motor-Driven, 6 position
	Emission Filter (One standard set; Five for optional order)	595 nm (EtBr Stain)	595nm (EtBr Stain)
Control Set	Display Panel	Build-in 7" TFT LCD	Build-in 7" TFT LCD
	Standalone Control	Front Control Pad	Front Control Pad
	PC Control Interface	Optional	Optional
	Image Storage	USB Storage	USB Storage
Lighting Set	Motor Focus Platform (MFP)	X	X
	UV Transillumintor (26cm X 21cm)	V	V
	White Back Light	V	V
	Epi White Light	V	V
	Epi Blue Light	X	X
	Epi Green Light	X	X
	Epi Red Light	X	X
III. Software			
System Control & Image Capture	Avegene Xview	Optional	Optional
Analysis	1D or 2D Analysis	Optional	Optional
IV. General Info			
	Power	100V-240V	100V-240V
	Dimension (WxHxD)	620x1040x415mm	620x1040x415mm
	Weight	50Kg	50Kg
	Certification	UL,CE	UL,CE

Cat No	Product Name	Packing
AG-LA030	LIAS Xlite 30R	Avegene Standard*
AG-LA200R	LIAS Xlite 200R	Avegene Standard*

UV Transilluminator



Make the most of your quantitative imaging with Avegene UV transilluminator. Our exclusively designed transilluminator provides the UV illumination with superior uniformity, which is significant for accurate quantitative analysis.

The Avegene transilluminator is combined compactly and economically for laboratories with budget in mind.

Superior performance :

- ▲ Ultra-high uniformity of UV intensity distribution
- ▲ Large illuminant filter size (21 cm X 26cm)
- ▲ Single / Dual UV wavelengths
- ▲ Adjustable UV intensities

Safety:

- ▲ Anti-UV transparent cover
- ▲ Multiple protective circuit designs
(overload, short, over-heating, auto switch-off)

Certification :

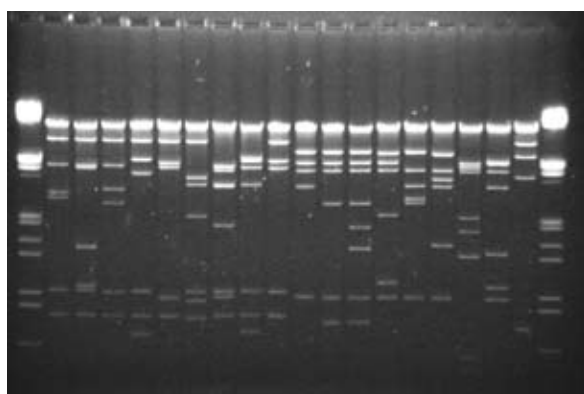
- ▲ CE, cTUVus

Warranty:

- ▲ Longer product & tube life cycle

Specification

Item	TI2621D	TI2621AS TI2621BS
Filter Size	26 x 21 cm	
Wavelength	365nm / 8W x 6 Tube 305nm / 8W x 5 Tube	305nm / 8W x 5 Tube 365nm / 8W x 5 Tube
Power Switch	305nm / off / 365nm	305nm / off 365nm / off
Intensity Style	Hi / Lo	Single
Power Input	100VAC ~ 240VAC ; 50 ~ 60 Hz	
Input Current	100VAC , 1.5A 240VAC, 1A	
Operating conditions	Temperature : 0 ~ 40 Humidity : 0 ~ 80% R.H.	
Dimension (LxWxH)	34 x 25.5 x 9.4 cm	



Works with both Ethidium bromide and Syber-Green™

Cat No	Product Name	Filter Size
AG-T2126BS	UV Transilluminator I (305nm, 21x26cm filter size, hi/low intensity)	21 x 26 cm
AG-T2126AS	UV Transilluminator II (365m, 21x26cm filter size, hi/low intensity)	21 x 26 cm
AG-T2126D	Dual UV Transilluminator (305nm / 365nm, 21x26cm filter size, hi/low intensity)	21 x 26 cm