

Comparison compiled by Y.F.Leung of Department of Ophthalmology and Visual Sciences, Chinese University of Hong Kong
 Whilst every care has been taken in the production of this comparison Technology Networks Ltd., cannot accept liability for any errors or omissions.

Looking for a microarray scanner?														
Company (for contact details see Supplier Index on Lab-on-a-Chip.com)	Product	Resolution range	Confocal System?	Detection system ¹	Sensitivity	Maximum Scanning area	Maximum scan rate ²	Image format	More than 2 channels detection?	Laser wavelengths / nm	Can use fluorophores other than Cy3 or Cy5?	Change param- eters during scan?	Representative publications	Customer References
Affymetrix Inc. #	Affymetrix 428 scanner	10µm (highest)	Yes	PMT	<1 fluor/µm ² (cy3)	22mm × 75mm	50 lines per second at 10µm	tif (16 bit), bmp	*	532, 635 others available	Yes	*	*	*
Applied Precision Inc.	ArrayWoRx [®] Biochip Reader	3.25µm to 26µm	*	CCD; 14-bit	0.1 fluor/µm ² (Cy3 & Cy5)	22mm × 60mm	5.5 mins at 10µm	tif (16 bit), softWoRx (24bit proprietary)	Yes (4, optional)	While light source with filters	Yes ³	*	1. Brown C. et al. PNAS 98:8944-8949 2. MacBeath G. et al. Science 289:1760-1763	Center for Genomics Research, Harvard University.
	ArrayWoRx Microarray Scanner				*	22mm × 60mm	*		Yes (4)	While light source with filters	*	*		
Axon Instruments Inc.	GenePix 4000B	5µm to 100µm	No	PMT	0.1 fluor/µm ² (Cy3 & Cy5)	22mm × 75mm	12 mins at 5µm	tif (16 bit), jpg	No	409, 473, 532, 594, 635, 670, 690	Yes ³	Yes (PMT voltage & focus plane)	1. Takizawa PA. et al. Science 290:341-344 2. Perou CM. et al. Nature 406:747-752 3. Gregory AK. et al. J. Am. Chem. Soc. 123:361-362	1. NIH/NCI 2. Incyte Genomics 3. Motorola
GeneFocus #	DNAscope IV & V	5µm to 30µm	Yes	PMT	*	22mm × 70mm	*	*	Yes (3)	532, 635, others available	Yes	*	*	*
	Open Frame Research DNAscope	2µm or 10µm	Yes	*	*	22mm x 70mm	*	*	*	532, 635, others available	Yes	*	*	*
Genomic Solutions Inc.	GeneTAC 2000	28µm (fixed)	No	CCD; 12-bit	0.02 fluor/µm ² (Cy5)	25mm × 38mm	0.1 sec to 5 mins per channel	tif (16 bit)	Yes (4)		Yes ³	No	*	1. MD Andersen Cancer Center, TX, USA 2. Cardiff School of Biosciences, Wales. UK 3. Roslin Institute, Scotland
	GeneTAC LS IV	1µm to > 100µm	No	PMT	0.02 fluor/µm ² (Cy5)	25mm × 65mm	4 mins at 10µm	tif (16 bit)	Yes (3 or 4)		Yes ³	Yes (PMT gain & offset)		
	GeneTAC UC-4	1µm to > 100µm	No	PMT	0.02 fluor/µm ² (Cy5; estimated)	25mm × 75mm	10 mins at 5µm (estimated)	tif (16 bit)	No		Yes ³	Yes (PMT gain & offset)		
Packard Bioscience #	ScanArray Lite	5µm to 50µm	Yes	PMT	0.1 fluor/µm ²	22mm × 73mm	> 10 mins at 5µm (estimated)	Tif (16 bit), raw (proprietary)	No	543, 594, 612, 633	Yes	No	1. Zhao R. et al. Genes Dev 14:981-993	1. Ontario Cancer Institute 2. Department of Biological Sciences, Stanford University
	ScanArray 4000	5µm to 50µm	Yes	PMT	0.1 fluor/µm ²	22mm × 73mm			No	488, 514, 532, 543, 594, 612, 633	Yes	No	2. Gracey AY. et al. PNAS 98:1993-1998 3. Yarwood SJ. et al. PNAS 98:4472-4477	
	ScanArray 4000XL	5µm to 50µm	Yes	PMT	0.1 fluor/µm ²	22mm × 73mm			Yes (3)	543, 594, 612, 633	Yes	No		
	ScanArray 5000	5µm to 50µm	Yes	PMT	0.1 fluor/µm ²	22mm × 73mm			Yes (4)	543, 594, 612, 633	Yes	No		
	ScanArray 5000XL	5µm to 50µm	Yes	PMT	0.1 fluor/µm ²	22mm × 73mm			Yes (5)	488, 543, 594, 633 488, 514, 543, 594, 633	Yes	No		
Virtek Vision International Inc.	ChipReader	10µm to 80µm (10µm increment)	Yes	2 PMT	*	22mm × 65mm	*	tif (16 bit)	No		Yes ³	Yes	1. Chen et al. J. Clin. Microbiol. 39:696-704	1. Telechem/Arrayit.com 2. Center of functional genomics University of Rochester, NY, USA 3. Universidad Nacional Autonoma de Mexico
	ChipReader High Resolution	5µm to 40µm (5µm increment)	Yes	2 PMT	*	22mm × 65mm	*	tif (16 bit)	No		Yes ³	Yes		
	ChipReader Extreme	3µm to 24 µm (3µm increment)	Yes	2 PMT	*	22mm × 65mm	20 lines per second at 3µm	tif (16 bit)	No		Yes ³	Yes		

information not supplied but available on their website

* information not supplied and is not available on their website

1. Detection system – PhotoMultiplier Tube (PMT); Charge Coupled Device (CCD)
2. Maximum scan rate of an image under highest resolution scanning
3. Fluorophores other than Cy3 and Cy5:
 - a. Applied Precision - Alexa 488, Alexa 350
 - b. Axon – Alexa 400, Cy2, 5-FAM, Fluor X, Alexa 488, Alexa 532, Alexa 546, POPO-3, PO-PRO-3, Cy3.5, Alexa 568, Alexa 594 BIODIPY 600/650-X, Cy5.5, Cy7
 - c. Genomic Solution
 - i. GeneTAC 2000: all visible-range fluorophores, including FITC, Cy3, Texas Red, Cy5, Alexas, BODIPYs etc.
 - ii. GeneTAC LS IV: all visible-range fluorophores, including FITC, Cy3, Texas Red, Cy5, Alexas, BODIPYs etc.
 - iii. GeneTAC UC-4: all green exciting dyes, and all dyes spectrally similar to Cy5
 - d. Virtek – Cy3 and Cy5 similar