

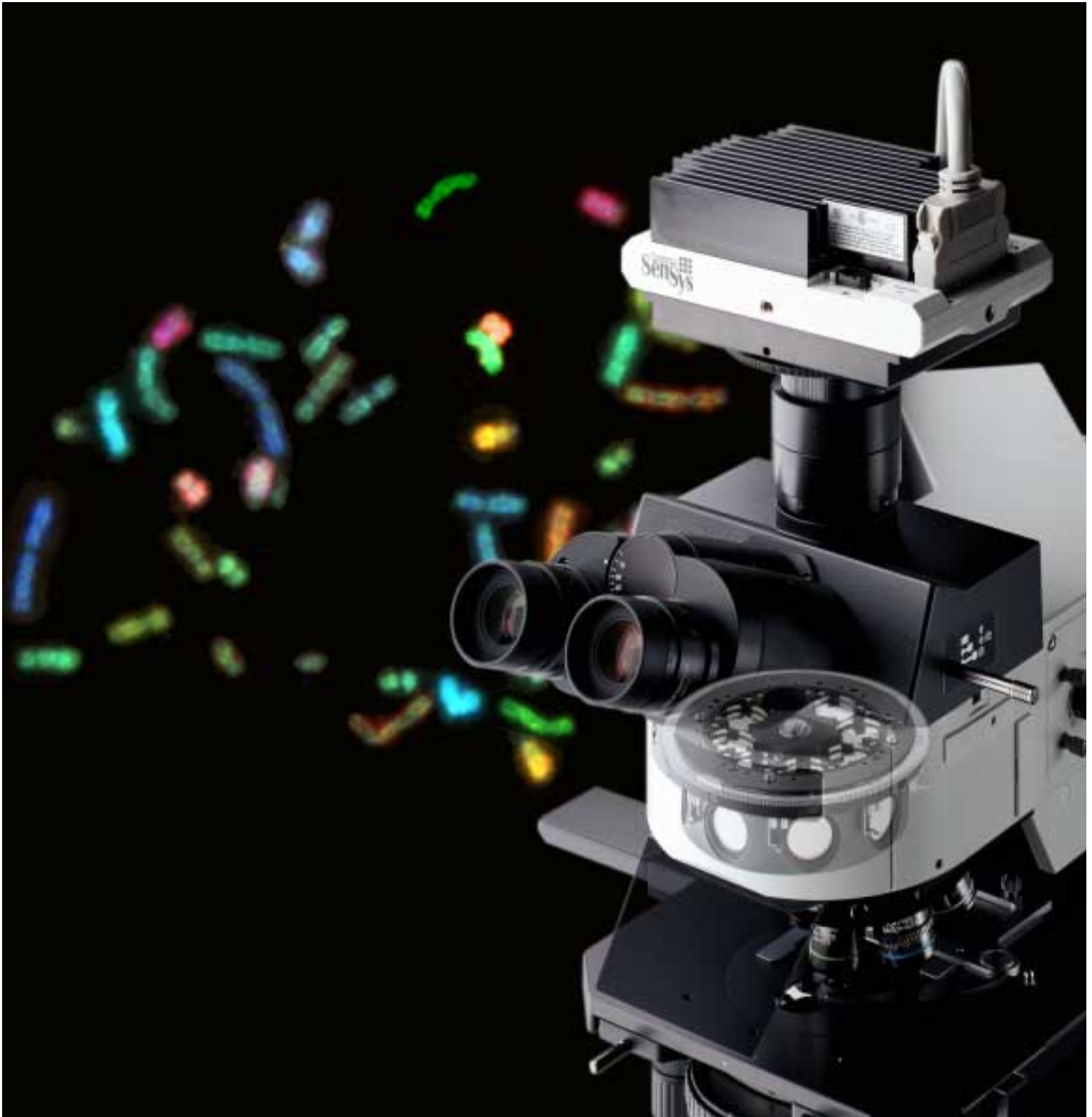
**OLYMPUS**<sup>®</sup>

RESEARCH SYSTEM  
MICROSCOPE FOR GENETICS

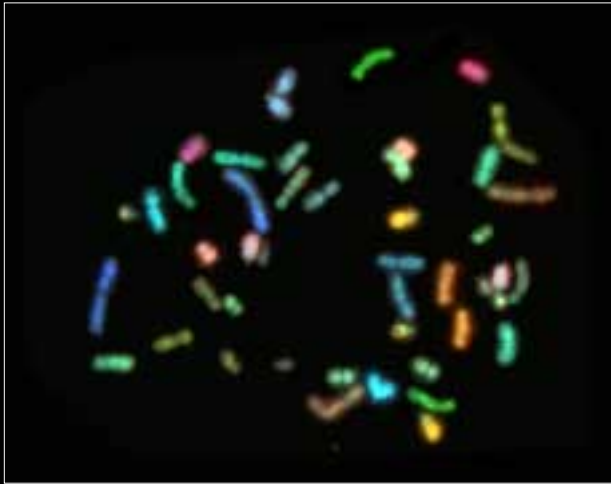
**M-FISH**  
AX/BX

*FIRST CHOICE FOR M-FISH IMAGING*

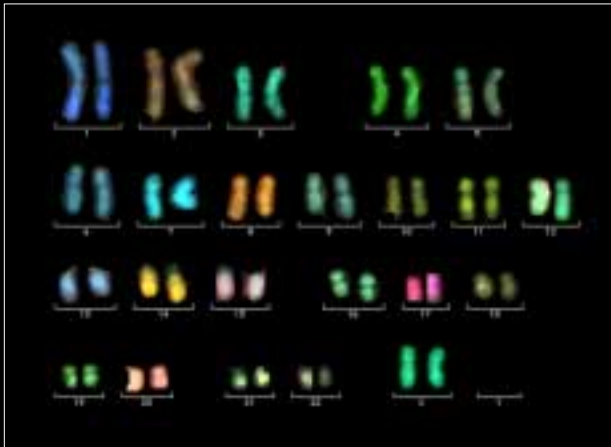
*UIS*  
UNIVERSAL  
INFINITY SYSTEM



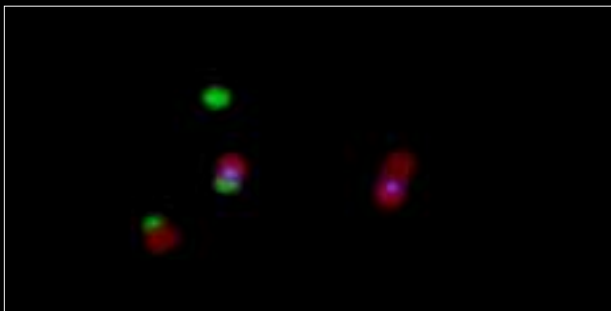
# Making the most of M-FISH techniques in cancer research and preimplantation genetic diagnostics



The Metaphase Spread of the Normal Female Karyotype.



The Karyotype of a Normal Female with the X-X Chromosome. Photos courtesy of Dr. Patricia Bray-Ward and Dr David Ward, Yale Dept. of Genetics, Yale University, U.S.A.



Metaphase from a carrier of a 46XX, t(8:21)(q13,q21) translocation. Chromosome 8 was hybridized with a whole chromosome probe labeled with Spectrum orange, and with a centromeric probe labeled with spectrum Aqua, and chromosome 21 with a whole chromosome probe labeled with Spectrum green. Probes were obtained from Vysis. The centromeric probe was used to differentiate derivative 8 (red, green and blue) from derivative 21 (green and red). Photo courtesy of Dr. S. Munne and Dr. J. Cohen, St. Barbanas Medical Center, Livingston, N.J., U.S.A.

## Built-in 8-position filter turret

The system's filter turret permits up to 8 different filters to be combined as required for a range of fluorescence observations, using excitation from UV to IR. The user can thus accurately monitor chromosomal rearrangements in a metaphase, with more than 5 different fluorescent probes, and inspect translocations in a fertilized cell.



AX-URBC8



U-URBC8

## A choice of three systems

Three different microscope systems are available: AX70 plus U-MCB, allowing observations of chromosome rearrangement and motorized control via computer; AX70 plus AX-HSTR8, with manual switch control; and the BX basic system for comprehensive routine investigations.

## Top-class UIS objectives

To ensure optimum color registration, all these microscopes are fitted with Olympus' top-of-the-line UPLAPO series objectives, which precisely compensate for different kinds of aberrations.



## Compatibility with excitation balancer

A further refinement is compatibility with Olympus' unique excitation balancer, which allows intensity balancing of some probes even during image capture.

Applications for M-FISH imaging are increasing fast — particularly in fields like cancer research and preimplantation genetic diagnostics. To meet that demand, Olympus has developed the AX/BX range of high-performance incident light fluorescence microscope systems. Incorporation of an 8-position filter turret enables them to cope fully with specialized research demands as well as a wide variety of routine inspection tasks.



### **AX70 plus U-MCB** With motorized control for focusing via PC

This model's multi-control unit enables direct change of fluorescence filters and objectives, direct operation of excitation shutter and illumination switchover (incident/transmitted light); and direct control of Z axis focusing via the optional AX motorized focusing unit. Additional automation upgrades make this model the natural first choice for advanced research.



### **AX70 plus AX-HSTR8** Standard system with hand switch control

Fluorescence filters and objectives can be directly changed with the small control pad placed close to the operator's hand. Excitation shutter on/off control is also possible, as is control via the operator's PC.



### **BX60** Basic system for routine clinical applications

The BX60 microscope has a built-in incident light illuminator and manual revolving nosepiece. This is a basic M-FISH microscope designed for routine investigations.

## OPTIONAL ACCESSORIES



### Excitation Balancer (For AX)

For fluorescence observations using multi-band filters, the fluorescence balance is easily adjusted by a simple dial operation.

### Motorized Z-axis Focusing (For AX)

With the AX70 plus U-MCB combination, Z-axis focusing can be controlled from a PC. An RS232C interface connects the PC and the U-MCB, and this controls the AX-FOM which is built in to the body of the AX70.

\* Please consult your Olympus dealer for upgrades.

## SPECIFICATIONS

Item		AX70	BX60
Microscope	Optical System	UIS optical system	
Stand	Focus	Coaxial coarse and fine focus knobs with torque adjustment for coarse focus knobs, Vertical stage movement : 25mm stroke with coarse adjustment upper limit stop, Minimum fine focus graduation : 1 $\mu$ m increments, Stroke per rotation : 0.1mm(fine), 15mm(coarse)	
		Optional motorized focus with fine focus knobs (AX-FOM), operable via PC with U-MCB multi control unit	—
	Transmitted light illumination	Built-in Koehler illumination with 12V100W halogen bulb (pre-centered), switch, digital voltage read out LED indicator (1-12V, adjustable by 0.1V with a front jog dial), including six built-in filters (ND1.5, ND3, ND6, ND12, IF550, and LBD)	Built-in Koehler illumination with 12V100W halogen bulb (pre-centered), with light preset switch, voltage LED indicator, including three built-in filters (ND6, ND25 and LBD)
	Power supply for transmitted light illumination	Separate power supply unit (U-PS), 100, 120, 220, 230, 240V automatic changeover	Built-in power supply, 100/120 or 220/230/240 selectable
Incident light fluorescence		Universal incident light illuminator, with motorized 8 position filter turret operable via hand switch (U-HSTR8/IF), multi control unit (U-MCB) or PC, and motorized shutter, detachable field stop and aperture stop units, and excitation balancer, 100WHBO or 75WXBO light source	Universal incident light illuminator, with 8 position filter turret, built-in field stop, aperture stop, and shutter, 100WHBO or 75WXBO light source
Observation tube		Super widefield (F.N. 26.5) with U-SWTR trinocular observation tube or U-MPH multi-port head	Widefield (F.N. 22) with U-TR30 trinocular observation tube Super widefield (F.N. 26.5) with U-SWTR trinocular observation tube
Revolving nosepiece		Motorized sextuple nosepiece (U-D6REM)	
Stage		Coaxial stage with left or right hand low drive X/Y controls with torque adjustment and fine stage rotation Stroke range: 52X76mm Specimen holder: dual or single slide holders are available	Ceramic coated coaxial stage with left or right hand low drive X/Y controls with torque adjustment and stage rotation Stroke range: 52X76mm Specimen holder: two types available
Condenser		Universal turret condenser (U-UCDB-2: N.A. 0.2-0.9 with dry top lens or N.A. 1.4 with oil top lens)	
		Motorized universal condenser (U-UCDM: N.A. 0.16-1.4 with automatic change of top lenses)	—
Eyepiece		UIS eyepiece series	
Objectives		UIS objective series (UPLAPO4X, 10X, 20X, 40X, 100XO)	

Specifications are subject to change without any obligation on the part of the manufacturer.



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