

BMG LABTECH's Microplate Reader Comparison

	PHERAstar FS	PHERAstar Plus	POLARstar Omega	FLUOstar Omega	LUMIstar Omega	SPECTROstar Omega	POLARstar OPTIMA	FLUOstar OPTIMA	FLUOstar OPTIMA F	FLUOstar OPTIMA FL	FLUOstar OPTIMA ABS	LUMIstar OPTIMA	NOVOstar	RUBYstar	NEPHELOstar
Detection modes															
UV/Vis absorbance	+	+	+	+		+	+				+		+		
UV/Vis absorbance spectrum	+		+	+		+									
Fluorescence intensity	+	+	+	+			+	+	+	+			+		
FRET	+	+	+	+			+	+	+	+			+		
Fluorescence polarization	+	+	+				+						+		
Time-resolved fluorescence	+	+	+	+			+	+	+	+			+	+	
Time-resolved-FRET	+	+	+	+										+	
AlphaScreen®	+	+	+	+											
Luminescence	+	+	+	+	+		+	+		+		+	+		
BRET	+	+	+	+	+		+	+		+		+	+		
Sequential dual emission detection	+	+	+	+	+		+	+	+	+		+	+		
Simultaneous dual emission detection	+	+	+				+						+	+	
Multichromatic	+	+	+	+	+	+	+	+	+	+	+	+	+		
Nephelometry (scattered light)															+
Technical features															
Injectors	+		+	+	+	+	+	+	+	+	+	+	+		+
Pipettor and plate-to-plate transfer															
38°C incubation	+	+	+	+	+	+	+	+	+	+	+	+	+		+
45°C incubation	+	+	+	+	+	+	+	+	+	+	+	+	+		+
60°C incubation			+	+	+	+	+	+	+	+	+	+	+		+
CO2 incubation (gas vent)			+	+	+	+	+	+	+	+	+	+	+		+
Absorbance UV/Vis spectrometer	+		+	+		+									
6 - 384 well	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6 - 1536 well	+	+	+	+		+									
Assays															
Endpoint assays	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Kinetic assays	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Well scanning	+	+	+	+	+	+	+	+	+	+	+	+			
Absorbance UV/Vis spectrometer	+		+	+		+									
ELISA (absorbance / luminescence)	+	+	+	+	+	+	+	+		+	+	+	+		
Immunoassays	+	+	+	+		+	+	+	+	+	+		+	+	
Protein determination															
Bradford, BCA, Lowry	+	+	+	+		+	+				+		+		
Protein (A280)	+	+	+	+		+	+	+			+		+		
NanoOrange, CBQCA, Quant-iT	+	+	+	+		+	+	+	+	+			+		
Nucleic acid assays															
DNA/RNA/Oligos (A260)	+	+	+	+		+	+				+		+		
260/280	+	+	+	+		+	+				+		+		
RiboGreen, PicoGreen, Hoechst, OliGreen	+	+	+	+			+	+	+	+			+		
SNP genotyping	+	+	+	+			+	+	+	+			+		

+ = available. Not all of the features mentioned above are available in the basic units or in all detection modes. Optional accessories may be necessary to perform certain assays. Please contact your local distributor for details. n.t.= not tested.

	PHERAstar FS	PHERAstar Plus	POLARstar Omega	FLUOstar Omega	LUMIstar Omega	SPECTROstar Omega	POLARstar OPTIMA	FLUOstar OPTIMA	FLUOstar OPTIMA F	FLUOstar OPTIMA FL	FLUOstar OPTIMA ABS	LUMIstar OPTIMA	NOVOstar	RUBYstar	NEPHELOstar
Reporter genes															
ALP, beta-galactosidase	+	+	+	+	+		+	+	+	+		+	+		
Beta-lactamase	+	+	+	+	+		+	+	+	+		+	+		
Luciferase	+	+	+	+	+		+	+		+		+	+		
Dual luciferase	+		+	+	+		+	+		+		+	+		
CFP, GFP, YFP	+	+	+	+			+	+	+	+			+		
Cell viability/proliferation/death															
MTT, XTT, Crystal Violet, SRB	+	+	+	+			+	+			+		+		
Fluorescent Live/Dead kits, Alamar Blue	+	+	+	+			+	+	+	+			+		
Calcein AM, CyQUANT	+	+	+	+			+	+	+	+			+		
SYTOX Green, ethidium homodimer	+	+	+	+			+	+	+	+			+		
Enzyme assays															
ATP (luciferase)	+	+	+	+	+		+	+		+		+	+		
NADH (dehydrogenases)	+	+	+	+		+	+	+			+		+		
Phosphatases/Kinases activity	+	+	+	+	+		+	+	+	+		+	+		
Protease activity	+	+	+	+	+		+	+	+	+		+	+		
HTS Assays															
HTRF® (Cisbio)	+	+	+	+										+	
AlphaScreen® (Perkin Elmer)	+	+	+	+										+	
DELFI A® (Perkin Elmer)	+	+	+	+			+	+	+	+			+		
LANCE® (Perkin Elmer)	+	+	+	+											
LanthaScreen (Invitrogen)	+	+	+	+											
PolarScreen (Invitrogen)	+	+	n.t.				n.t.						n.t.		
Transcreener ADP ² FP (BellBrook Labs)	+	+	+												
Z'-Lyte (Invitrogen)	+	+	+	+			+	+					+		
Ion Channel - VSP (Invitrogen)	+		+	+			+	+					+		
Multiplexing (Promega)	+	+	+	+	+		+	+		+		+	+		
P450 (Promega)	+	+	n.t.	n.t.	n.t.		n.t.	n.t.	n.t.	n.t.		n.t.	n.t.		
DLR (Promega)	+	+	+	+	+		+	+		+		+	+		
HitHunter (DiscoverRx, luminescence)	+	+	+	+	+		+	+		+		+	+		
HitHunter (DiscoverRx, FP)	+	+	+	+	+		+	+		+		+	+		
MycoAlert (Cambrex)	+	+	+	+	+		+	+		+		+	+		
PK Light (Cambrex)	+	+	+	+	+		+	+		+		+	+		
ATP bioluminescence	+	+	+	+	+		+	+		+		+	+		
CyDye fluors FRET protease	+	+	+	+	+		+	+	+	+		+	+		
Intracellular calcium (Ca ²⁺ assay)	+		+	+			+	+	+	+			+		
Luminescent ABEL antioxidant test	+	+	+	+	+		+	+		+		+	+		
Other															
Solubility screening (nephelometric)			+	+			+	+	+	+			+		+
ORAC (antioxidant capacity)	+		+	+			+	+					+		+
Microbial growth	+	+	+	+		+	+	+			+		+		+
Endotoxin endpoint colorimetric	+	+	+	+		+	+	+			+		+		+

Please note that upgrades to the next higher model are available within the individual microplate reader series.

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