

BMG LABTECH updates its ACU

06 May 2015 | News | By BioSpectrum Bureau

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BMG LABTECH's Atmospheric Control Unit (ACU) is now entirely integrated into the reader control software. Carbon dioxide (CO₂) and oxygen (O₂) regulation can be easily managed via the intuitive and easy to understand user interface. Measurement results and gas concentrations curves are displayed together over the time.

Equipped with the Atmospheric Control Unit the CLARIOstar is able to provide the physiological environment for any cell type. The microprocessor-controlled unit can regulate CO₂ and O₂ independently from 0.1 percent to 20 percent, making it unnecessary to use premixed gas cylinders to reproduce the specific physiological conditions needed for cell-based assays. The integration of the ACU into the reader control software allows users to effortlessly regulate the gas concentrations within the microplate reader chamber. The gas concentration data is recorded over the measurement time and displayed in the MARS Data Analysis Software. Measurement data calculations can be related to the gas concentrations. Changes of the gas concentration can be done at any point during the experiment, either manual or by software, and are shown together with the measurement results. Status messages like an empty gas cylinder are additionally shown in the software.

Furthermore the Atmospheric Control Unit comes with a backlit LCD touchscreen which allows the controlling of the physiological conditions when the connected computer is not running. Utilizing the stand-alone mode, users have the possibility to define up to 10 user-presets and to see the gas concentration curves on the LCD display.

In combination with CLARIOstar's extended temperature control and three different shaking options (orbital, double orbital, and linear), the ACU is able to provide the physiological environment for any cell type, making cell-based assays more biologically relevant. Within the German-engineered ACU, integrated gas pressure regulators allow for easy setup and independence of gas supply pressure. Pressure sensors combined with an acoustic alarm enable easy control of both gas supplies while superior valve gas control ensures minimal gas consumption. Accurate gas regulation is further guaranteed by the incorporated altitude correction feature.

The CLARIOstar multimode microplate reader offers filter-like performance with advanced LVF Monochromators that provides increased sensitivity over conventional monochromators. The LVF Monochromators, along with filters and an UV/Vis spectrometer can be used for a variety of applications in up to eight different detection modes, Fluorescence Intensity and FRET, Time-Resolved Fluorescence (TRF) and TR-FRET, Fluorescence Polarization/Anisotropy, AlphaScreen/AlphaLISA, Luminescence (flash and glow) and BRET, and spectrometer-based UV/Vis absorbance.