

Breakthrough in the Field of Water Microbiology

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BioThema has developed a new kit called the Ocean Water Biomass Kit for determination of biomass in the ocean, which is an important parameter in preserving the environment of the Earth. This method, which is based on collecting the cells on a filter and measuring the ATP (the energy currency of all living cells) directly on the filter, is now described in a video at www.biothema.com. Measurements are performed with the most sensitive luminometer commercially available, i.e. the FB12 luminometer from Berthold Detection Systems, www.berthold-ds.com. The assay, which takes only 2.5 minutes, is used by all 8 boats participating in the Volvo Ocean Race from the beginning of October 2008 until the end of June 2009. More info on the race is available at www.volvoceanrace.org. The kit includes a new ATP reagent with 3x higher activity than ATP Reagent SL and a new extractant even more reliable than Extractant B/S. The kit can be modified for various applications increasing the sensitivity even further. Applications include fresh water, drinking water, swimming pool water, cooling water and process water. By using a highly sensitive ATP reagent and filtering a large volume it may even be possible to measure bacteria in WFI (water for injection used in the pharmaceutical industry). We have seen no problems filtering 1 L tap water. All the microbial cells from the entire sample volume are concentrated on the filter. This means a 10,000 fold increased sensitivity compared to using a 0.1 mL sample volume that has been previously used.

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