

4. Black or White?

White microplates are usually used for luminescence measurements (e.g. Luciferase Reporter Assays) and black microplates for fluorescence measurements (e.g. Green Fluorescence Protein). The critical properties in these methods, such as background, autofluorescence or crosstalk are considerably improved by the use of black or white pigmented microplates. The optical and physical properties of the Greiner Bio-One microplates were investigated in our laboratory. Higher pigment concentrations produced a much lower autofluorescence of the microplates. At shorter wavelengths, this influence is more pronounced than at the normal fluorescein wavelength combination of 485/520 nm (Fig. 6, 7). When comparing different white fractions, the same results were obtained for phosphorescence.

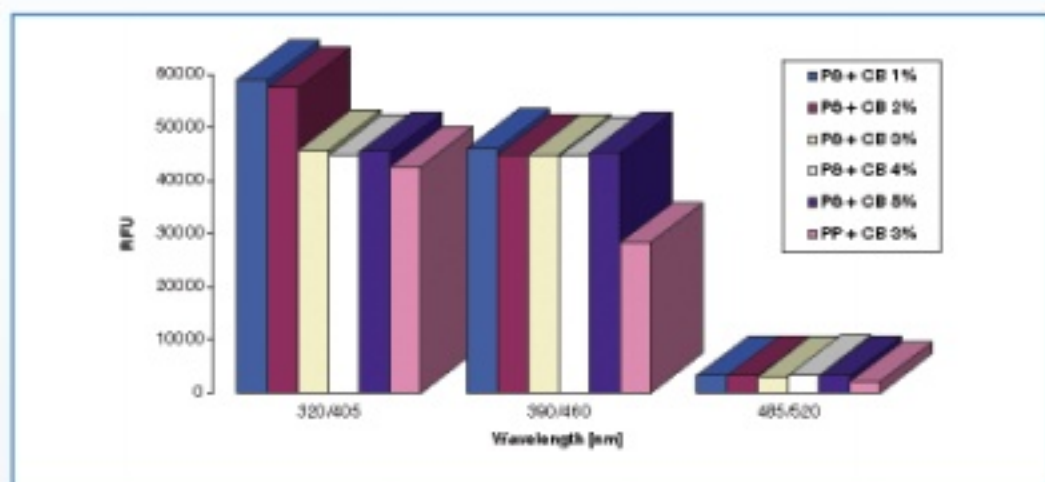


Figure 6:

Influence of the black pigment fraction and the wavelength used on the autofluorescence of 96 well microplates

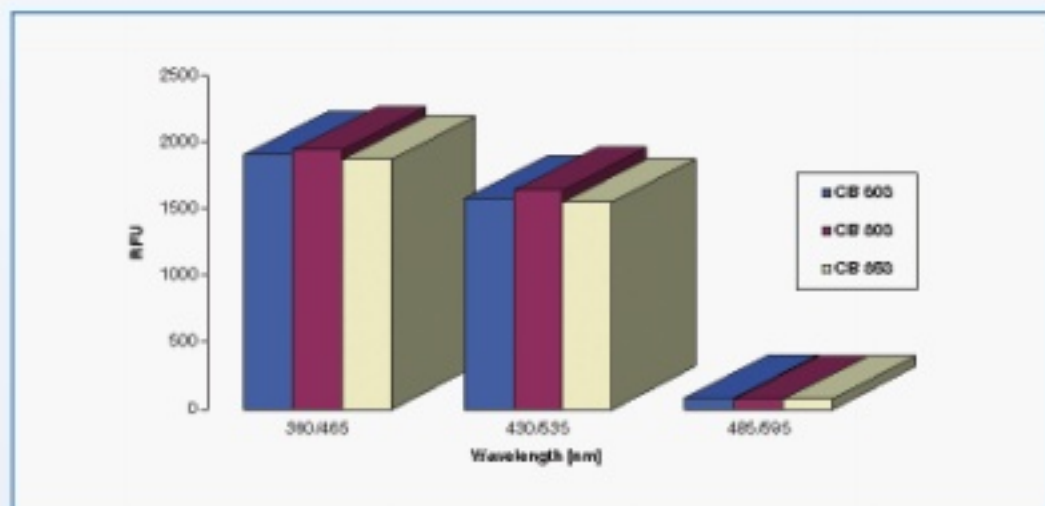


Figure 7:

Influence of different black pigments on the autofluorescence of 96 well microplates