BLOCKING AND DRY STORAGE OF ELISA PLATES.

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Following coating of a capture antibody onto an ELISA plate, a blocking step is performed to prevent any subsequent non-specific binding of immunochemically active components. Several types of blockers are in common use, including bovine serum albumin, casein, skim milk, as well as non-ionic detergents, notably Tween-20. Several manufacturers of ELISA reagents now market blocking solutions which allow for the plates to be stored in the dry state following the blocking step. We have investigated the performance of one such product: SuperBlock (TM) (Pierce). Both polyclonal and monoclonal antibody based assays were analyzed. Based on serum samples our FSH Monoclonal assay, yielded signal to noise ratios of 22.5 for SuperBlock (TM) plates and 13.9 for our traditional method. Dilutions of SuperBlock TM in 144 mM NaCl yielded intermediate signal to noise ratios. For the LH assay, the ratios were 54.6 and 27.5 respectively. For the polyclonal AFP assay, no significant different signal to noise ratio was obtained, the values being 60.0 and 63.2 respectively.

Secondarily, we evaluated the claim that the blocked plates can be stored dry. Plates were coated with polyclonal antibody (AFP) and processed in the following manner: a) coated and stored in the coating buffer b) coated and dried c) coated, blocked with SuperBlock (TM) and stored dry.

We find that: a) dry storage of unblocked plates (1 week) yield a regression line of *dried plate value* = 2.8 + .8647 * *traditional plate value,* b) *SuperBloc (TM) dry plate value* = 1.34 + .9975 * *traditional plate value.* After 3 weeks dry storage, we find that the signal to noise ratio for the three processed plates were: 62.8 for the traditional wet storage, 52.1 for the dry storage and 74.2 for the SuperBlock (TM) dry storage.