Comments on an Article by M.P. Burton et al.

The recent short technical report (1998, BioTechniques 24:86-92) by M.P. Burton et al. entitled, “Comparison of Histological Stains for Use in PCR Analysis of Microdissected, Paraffin-Embedded Tissue”, evaluated the effect of six different histological stains on the productivity of PCR amplification of DNA isolated from paraffin-embedded tissue samples. The authors state that their “most significant finding was that a commonly used histological stain, hematoxylin, failed to produce DNA templates that could be consistently amplified by PCR” and “it is prudent to avoid hematoxylin stains when preparing tissues as starting material for PCR”. The fact that hematoxylin may be one of, if not the most common stains used in pathology today makes this a most important issue to address.

We would like to add to their findings by addressing this issue and commenting on our own comparison of histologically stained tissue as a source of template DNA for PCR. In a recent report (1), we showed that DNA from hematoxylin and eosin-stained clinical tissue could be reproducibly amplified following a destaining procedure that eliminates the deparaffinizing step, and replaces it with a destaining procedure, hematoxylin-stained tissues do not need to be avoided and are useful as a source of PCR template DNA.

Our study also showed that tissue samples stained by Kinyoun’s method for acid fast bacteria, Grimori’s method for iron, Gridely’s silver method for reticulum and Grocott’s methenamine silver could also serve as reproducible sources for PCR template DNA after undergoing paraffin removal (1).

REFERENCE


Igor Medintz, Dr. Luis Chiriboga and Dr. Lawrence Kobilinsky

John Jay College of Criminal Justice and the Graduate School and University Center, City University of New York 899 Tenth Avenue New York, NY 10019, USA

Response to Comments by I. Medintz, L. Chiriboga and L. Kobilinsky

We are gratified to hear that the adverse effects of hematoxylin can be reversed by destaining. Your finding is especially relevant to investigators whose only source of tissue is one that has already been stained with hematoxylin and eosin.

Dr. Mark Burton, Dr. Barbara Schneider and Dr. Margaret L. Gulley

University of Texas Health Science Center Department of Pathology 7703 Floyd Curl Drive San Antonio, TX 78284-7750, USA Internet: gulleym@uthscsa.edu