UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HOLOGIC, INC., and BECTON, DICKINSON AND COMPANY, Petitioners

v.

ENZO LIFE SCIENCES, INC.
Patent Owner

Case No. IPR2016-00820 U.S. Patent No. 7,064,197

PETITIONERS' REPLY

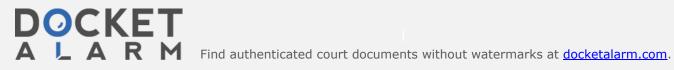


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I. PRELIMINARY STATEMENT

The Institution Decision held that it is more likely than not that the challenged claims are unpatentable based on the grounds presented in Hologic's Petition. Nothing in Enzo's Patent Owner Response calls that into question. The conclusory and unsupported arguments of Enzo's technical expert, Dr. Gregory Buck ("Buck"), fail to alter the Board's reasoning in its Institution Decision. The Board should issue a Final Written Decision canceling the challenged claims.

II. ARGUMENTS

- A. Claims anticipated by Fish.
 - 1. Single-stranded (ss) nucleic acids fixed to a non-porous solid support.

The Decision properly concludes that Fish explicitly discloses binding ssDNA to PLL-coated wells. Decision, 12-13.

The Decision states that Fish "knew that ssDNA would bind to PLL-coated wells, because they were relying on such binding to carry out their experiment." Decision, 13. The Decision quotes the following supporting sentence from Fish: "[t]his positive control for the nuclease S_1 activity suggests that single-stranded nucleic acid, bound to PLL treated plastic, remains susceptible to the hydrolytic activity of the enzyme." Ex.1006, 538, right col.,¶1.



Enzo's alternative interpretation of the sentence—Fish *assumed* that ssDNA may have bound—does not make sense. Response, 5. The Decision got it right.

Enzo claims that "additional information" suggests Fish would not have known ssDNA bound. Response, 5. Enzo argues that prior hybridization methods involved ssDNA bound to porous materials or cells bound to non-porous materials. As a consequence, Enzo argues that a POSITA would not have expected ssDNA to bind to PLL-coated polyvinyl plates. *Id.* Enzo's alleged state of the art, which did not address nucleic acids binding to PLL, sheds no light on what the Fish authors knew about binding ssDNA to PLL-coated wells.

Enzo oddly asserts that Fish's doubt that DNA would bind to *uncoated* polyvinyl somehow counters the Decision's conclusion that Fish knew ssDNA would bind to *PLL-coated* polyvinyl. Response, 5.

Fish proves that dsDNA bound to the PLL-coated wells. Response, 4; Ex.1035, 56:25-57:5. Enzo argues that those dsDNA experiments were unreliable for assessing whether ssDNA would bind in view of unspecified differences between ssDNA and dsDNA. Ex.2042, ¶76. But both ssDNA and dsDNA have negatively-charged backbones, allowing them to bind to positively-charged PLL-coated wells. Ex.1002, ¶52. Thus, if dsDNA binds to PLL-coated plates, there is no reason to doubt that ssDNA would too. *Id*.



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