***Correspondence***

To the Editors

# Signal-to-cutoff ratio for true and false positive HIV test results from the Ag/Ab Combo assay: a summarization

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Dear Editors,

Human Immunodeficiency Virus (HIV) infection is an important disease in the paediatric population. To diagnose an infection, a good HIV test is required. At present, new generation HIV assays are available. The ARCHITECT HIV Ag/Ab Combo assay is an example of a new HIV assay based on a chemiluminescent microparticle immunoassay (CMIA) principle. The assay can simultaneously and qualitatively detect HIV p24 antigen and antibodies to HIV type 1 (HIV-1 group M and group O) and/or type 2 (HIV-2) in clinical samples. The assay is proposed as a useful tool for the diagnosis of HIV-1/HIV-2 infection in paediatric subjects.

An important parameter from the assay is signal-to-cutoff (S/CO) ratio. The S/CO ratio is useful for discriminating between true and false positive HIV test results. There are some reports on comparative studies on S/CO ratio between true and false positive HIV test results from actual field use. Here, the authors summarize available published data on S/CO ratio[1-3]. From available data on 108,196 HIV screening tests, there were 20 true and 16 false positive results respectively. The S/CO ratio for true and false positive HIV test results range from 199–1094 and 1-39, respectively. The mean S/CO ratios for true and false positive HIV test results are equal to 424.91 and 1.75, respectively. It can show that the S/CO ratio for true HIV infected case is about 243 times higher than that of false positive results. Additionally, if the S/CO ratio is higher, that is if the S/CO ratio is higher than 40, there should be no false negative HIV results.

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***Rujitika Mungmungpuntipantip**[1], **Viroj Wiwanitkit**[2]
[1]*Private Academic Consultant, Bangkok Thailand*
[2]*Honorary Professor, Dr. DY Patil University, Pune, India*
**Correspondence:* rujittika@gmail.com
orcid.org/ 0000-0003-0078-7897