Reviewer's report

Title: Rapid and Simultaneous Detection of Human HBV and HCV Antibodies Based on a Protein Chip Assay Using Nano-gold Immunological Amplification and Silver Staining Method

Version: 1 Date: 22 February 2005

Reviewer: Oscar Octavio Noya

Reviewer's report:

General:
In relation to the manuscript entitled: “Rapid and simultaneous detection of human HBV and HCV antibodies based on a protein chip assay using nano-gold immunological amplification and silver staining method”, I suggest the following recommendations:

- Discretionary Revisions:

Minor corrections are outlined in the text in red.

- Minor Essential Revisions:

1.- Centrifugations must be expressed in “g” units and not in RPM.

2.- Last line of “Determination of ratio of colloidal nano-gold to SPA” (page 5). It is not clear what it means.

3.- Line five of “Preparation of nano-gold-SPA probes” says for 45 minutes, repeatedly. Should be clear how many times this step was performed.

4.- When comparing the protein chip to ELISA, nothing is said in relation of how many experiments and if each sample, was assayed individually or by duplicates or triplicates (pages 7 and 8).

Data Collection and analysis

5.- Staphylococcus aureus must be in italics (line 1, second paragraph page 11).

6.- References: some of them have the number of the issue (Ref. 10, 11, 14, 15, 16, etc.) but the majority not (Ref. 1, 2, 3, 4, 5, 6, 7, etc.)

7.- Table 1c. the legend should say Group 3 and not Group 2 as it was stated.

18.- Fig. 5 is very small. It should be magnified.

Major Compulsory Revisions: are the following:

1.- The authors pointed out “In this paper, we described the use of a paradigm of protein chip in simultaneous immunodiagnosis of various infectious diseases”. This claim should be limited to the technique, but not to a paradigm, since previously it was published the principle of simultaneous multidagnosis (Noya, O. and Alarcón de Noya, B. 1998 The multiple antigen blot assay (MABA): a simple immunoenzymatic technique for simultaneous screening of multiple antigens. Immunol Lett. 63:53-56) with the Multiple Antigen Blot Assay-MABA.
2.- Nothing is said in relation to the Informed Consent from the patients involved in this study nor about the consideration by an Ethical Committee.

Final comments:

This is an interesting paper, since it is described a single, cheap multidagnostic antibody-based-chip for the diagnosis of the different viral hepatitis antigens. It is a qualitative assay that seems rather easy to interpret. The possibility to be automatised is one of the major advantages. This manuscript deserves publication after the authors corrects the observations made by the referees.

**What next?:** Accept after minor essential revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No

**Declaration of competing interests:**

I declare that I have no competing interests.