



## Polyherbal lectin-based blood group detection kit for ABO & Rh determination

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Sir,

Accurate blood group determination is very important for safe transfusion and traditional antisera are expensive and require special storage condition (Bhagwat et al. 2015; Li & Guo 2022). We have formulated and tested a cost effective polyherbal blood group detection kit based on lectins of plants. Lectin rich extracts of *Dolichos biflorus* and *Phaseolus limensis* were used to make Anti-A and *Acacia nilotica* and *Butea monosperma* were used for Anti-B, Anti-D was made from Rh-negative plasma. The reagents were checked with the known ABO and Rh blood samples using slide and tube agglutination technique and tested with respect to agglutination time, strength, specificity, sensitivity and stability. The polyherbal reagents produced very specific and accurate agglutination patterns corresponding to the blood groups ABO and Rh. The agglutination observed occurred in 1 to 2 minutes. Anti-A has moderate activity (4+) and a high level of sensitivity (95–100%), while Anti-B and Anti-D have moderate activity (3+) and sensitivities of 85–90% and 90–95%, respectively. The reagents were stable at 2-8°C and were found to have high overall accuracy in comparison with standard antisera. The polyherbal blood group detection kit developed is reliable, affordable and user friendly to the traditional antisera. It has great potential to be used in routine diagnosis with further standardization and validation, particularly in low resource areas.

### DECLARATIONS OF INTEREST

None

### DECLARATION OF HONOUR

We declare in our honor that our results are not fake and made up.

### REFERENCES

- Bhagwat, S.N., Sharma, J.H., Jose, J. & Modi, C.J., 2015, 'Comparison Between Conventional and Automated Techniques for Blood Grouping and Crossmatching: Experience from a Tertiary Care Centre', *Journal of Laboratory Physicians*, 7(02), 096–102.
- Li, H.Y. & Guo, K., 2022, *Blood Group Testing*, *Frontiers in Medicine*, 9.