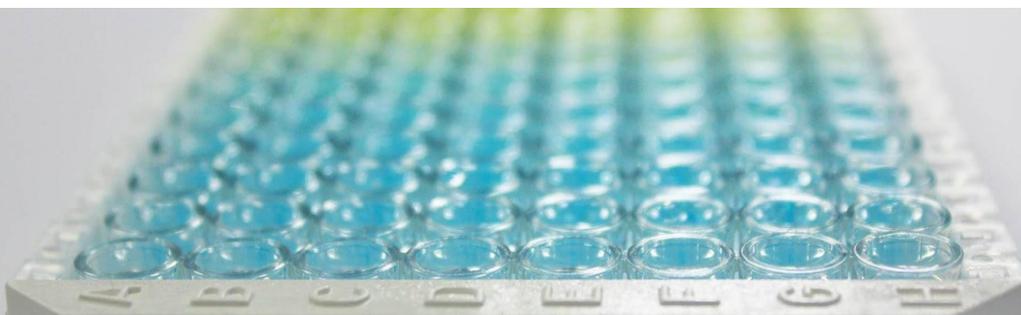


## P(MMA-co-MAA) 96-WELL PLATES

ELISA well-plates with more functional polymers.



### BACKGROUND

ELISA assays are used in a variety of industries. ELISA kits are used in forensic drug testing or commercial drug testing (i.e. in a workplace). In food industry, ELISA is used to detect certain food allergens, quality control or related processes. In healthcare, a variety of ELISA kits are FDA-approved for the diagnosis of many diseases like HIV, hepatitis C, and dengue among others. Currently the most common process to functionalize an ELISA well plate is by wet chemical treatment which is a cost-effective technique and simple method but its drawbacks are that it can be non-specific, unstable, or create irregular surfaces. At an industrial scale (i.e. fabrication of ELISA kits), this process can produce considerable amounts of chemical waste.

### TECHNOLOGY

Immobilization of proteins and antigens to the surface of the different polymers used in the 96 well plates is a key aspect of ELISA. Materials like Polystyrene (PS) and PMMA (commercially known as Plexiglass™) are functionalized to modify their surfaces and make them more apt to interact with proteins, antigens, and other biomolecules.

### KEY BENEFITS

- Much easier processing and reliability.
- Flexibility of use.
- Sensitivity improved by a factor of 1.5 for physical attachment and 2 for covalent when compared with traditional ELISA assays.
- Higher sensitivity, specificity and accuracy when compared with pure PMMA (97.9% vs. 91.6%, 93.75% vs. 90.62%, 96.87% vs. 91.4%, respectively).
- Lower limit of detection when compared to PMMA: 1.22 vs 16.7 p.f.u.x10<sup>3</sup>/ml when tested for detection of dengue virus.
- Much higher stability.
- Overall enhancements in output signal of the assay.

### DEVELOPMENT STATUS

- The technology was tested only in spin-coated chips that were introduced in the 96-well plate. The copolymer composition was optimized for the best results.

**TECHNOLOGY READINESS LEVEL: 3/9**

### INTELLECTUAL PROPERTY

This technology is available for licensing. More opportunities on our website: <http://redottec.com>



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