IMAplate Technology (Intelligent MultiFunctional Analysis)

IMAplate is a polystyrene plate of 96 “microcubes”. It is used to simplify and accelerate the handling of reagents, AND to make measures of absorbencies in UV, visible or InfraRed, of fluorescence or luminescence, compatible with any standard reader of microplate, while yielding signals at least equal or superior to standard microplates, but with only 5µL volume!

Applications
• 96-channel pipetting for liquid transfer:
ex pipette and empty 96 x 5µL in only 10 seconds!

• 96 bottom-free micro-cuvette array for UV, VIS or IR spectroscopy:
ex. assay DNA/RNA and proteins on just 5µL with your usual microplate reader !

• 96 microwell plate for parallel reactions, immuno-assays and cell assays
ex. do 96 reactions chemical or enzymatic on a unique support, miniaturize ELISAs with only 5µL of reagents, higher signals and saving time !

Added value of IMAplates :
• Miniaturization: saving limited samples and costly reagents >3-20x / lowered price per test
• Transfer of liquid integrated to assays
• High analysis throughput, even manually
• Robust - highly reproducible
• Reduce reactions times (solid-phase assays)
• Increase sensitivity

Powered by Interchim in collaboration with Berthold technologies Gmbh
How it works?

- **Loading, un-loading and washes are simplified, accelerated and reliable:** samples and reagents and buffers are loaded simultaneously by capillary force (a) (precise volume), assayed, then drawn away by an absorbent paper (c) or by centrifugation. ex. 1 plate/ samples can be washed in just 10 seconds, without machine!

- **Microcuvettes of 5µL save up 20 fold (rare) samples and any (costly) detection reagents** (ex in ELISA).

- **Reading (b): the optical path is perfectly defined,** and longer to those of standard microplates! Hence detection sensitivity is superior.

- **The microcuvettes have no bottom! Thus no parasite optical absorption** takes place, and you can work in UV, IR..., with superior sensitivity. You even can recover the samples (c).

- **The microcuvettes have a geometry more favorable for immunoenzymatic reactions** (surface/volume 3.8x superior), compared with wells of standard microplates: hence kinetic is speeded at each step (ex incubations 2 fold shorter in ELISA).

IMAplate technology combines advantages notably in ELISA, and for multiplexed analysis.

IMAplate offers a solution at the same time more flexible, quicker and cost-effective, when:
- samples are in limited quantity or precious,
- reagents are costly (case of commercial kits),
- several analysis are performed on each sample (multiplex),
- to speed steps and handling with reliability.

Examples of applications particularly appropriate:
- serological analysis of many analytes in small animals sera
- multiplex screening (pharma, cosmeto, vaccines)

**For ordering:**

<table>
<thead>
<tr>
<th>Designation</th>
<th>Product number</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMAplate™ Start Kit*</td>
<td>DR9601</td>
<td>1 Kit*</td>
</tr>
<tr>
<td>IMAplate™ (96 µcuvettes) – White§</td>
<td>DR9611</td>
<td>5 ea</td>
</tr>
<tr>
<td>IMAplate™ (96 µcuvettes) – Black§</td>
<td>DT5431 , 5 ea</td>
<td>5 ea</td>
</tr>
<tr>
<td>IMAplate™ (96 µcuvettes) – Yellow§</td>
<td>DT5441 , 5 ea</td>
<td>5 ea</td>
</tr>
</tbody>
</table>

**Prices and technical sheets on-line**

- § White plate are recommended for luminescence measurements, Black for fluorescence measurements, and yellow plates for UV-vis spectrometry and sample handling
- *contains 5 white IMAplates and Reader adapter

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**Analysis of 5 biomarkers in 8 mice at 10 times points**

<table>
<thead>
<tr>
<th>Method 1</th>
<th>Method 2</th>
<th>Best Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELISA</td>
<td>Luminex</td>
<td>IMAplate</td>
</tr>
<tr>
<td>Plasma (/mouse)</td>
<td>2ml</td>
<td>0.1ml</td>
</tr>
<tr>
<td>Tests. (8x10x10)</td>
<td>80</td>
<td>80 (8x10)</td>
</tr>
<tr>
<td>Cost/reagent (kit)</td>
<td>173 000 €</td>
<td>72 000 € #</td>
</tr>
<tr>
<td>Pipette tip (box)</td>
<td>180</td>
<td>40</td>
</tr>
<tr>
<td>Person/jour (4 kits/jr)</td>
<td>30</td>
<td>14 (2 kits/jr)</td>
</tr>
<tr>
<td>Valorized data</td>
<td>All*</td>
<td>Part</td>
</tr>
<tr>
<td>Data</td>
<td>Quantitative</td>
<td>Qualitative</td>
</tr>
</tbody>
</table>

*unknown individual variation for each time point
# + cost of instrument
Integrate your different methods/analysis on a unique support, flexible & efficient, without instrument investment!

**SPECTROMETRY**
- ex: DNA/RNA dosage (260nm)
- Proteins dosage (UV280nm)
- compound InfraRed analysis...

**LIQUID HANDLING**
- ex: Easy µcuve loading (10sec/capillary force, automatable)
- Easy µcuve un-loading (10sec/absorbant, centrifugation) (automatable)
- MicroCuvette: 5µl volume

**Featured applications**
- DNA/RNA quantification and quality analysis
- NT-DR961d
- A simple solution to improve the detection sensitivity of ELISA
- Miniaturized Enzyme-Linked ImmunoSorbent Assay

**INTERCHIM BioScience Innovations also provides associated reagents: ex:**
- **Colorimetric assays - ABS**
  - Proteins Dosages: BC Assay, Coo Assay
  - Biochemistry (clinical, IAA): Test Glucose, ...
  - Cell Biology: MTT, SOD, Thromboxanes, ...
  - "home made" Assays Reduce by 3-20 the cost of reagents

- **Fluorimetric Cell Assay - FL**
  - Assay of Proteins: LavaPep of DNA/RNA: Evagreen
  - Calcium Flux: Fluo-3, Fluo-8,...
  - Cell viability: UptiBlue, ...
  - Toxicology: LDH, Grantoxilux, ...

- **Homogenous-Phase assays – CELL Assays**
  - Commercial Kits Reduce cost/test by 2-5 fold
  - "home made" Assays Reduce by 3-20 the cost of reagents

- **(Chemi)Luminescent Assays - ECL**
  - ELISA avec HRP / UptiLight ECL
  - Calcium Flux: Coelenterazine/aquaporin..
  - Cell viability: ATP/lum., ...
  - Reporter assay: Luciferase, Coelenterazine, ...

- **Solid-Phase assays - ELISA**
  - ELISA Commercial Kits Reduce cost/test by 2-5 fold AND TIME BY 20-50%
  - "home made" ELISA: TMB, UptiLight ECL...
  - Reduce by 3-20 the cost of buffers, saturants, antibodies, enz. substrates
  - Other systems of multiplexed analysis (Luminex, SpotELISA, Micro-Arrays)

**SPECTROMETRY**
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- Proteins dosage (UV280nm)
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**FLUORESCENCE**

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**IMAplate technology**
- Reduce times of incubation, transfer, and washes ...
- Reduce the volumes & cost of rare samples & costly reagents by 3-20X
- Increase the sensitivity of detection

**Prices and technical sheets on-line**

INTERCHIM BioScience Innovations also provides associated reagents: ex:
Colorimetric & Fluorometric assays – Cell Biology

**UptiBlue™ Viable Cell Counting Reagent** (Fluorescent)  UP69412, 25ml  UP69413, 100ml
- Alternative to MTT, only one-step, abs or fluo (more sensitive), non toxic to cells and users, more flexible (bacteria, adherent cells)

**MTT** (Thiazolyl Blue Tetrazolium Bromide, Ultrapure)  FP-65939A, 1g
**MTT Assay** (Colorimetric)  FT-15547A, 10x100tests

**ATP determination kit** (Luminescent)  FP-S2841B, 100ml
- Method using the Luciferase/Luciferin. Linear from 0.1pmol to >3 logs.

**Fluo-3 -AM**  CP7501, 5x50µg  CP7504, 1mg
- Fluo-3 is 2 fold more sensitive than Fluo-4, and 4 fold more than Fluo-3, its load at room temperature, and do not need to wash cells

**Grantoxilux cytotoxicity assay** (Fluo.)  BP8891, 50 tests
- Measure the GranzymeB (path of cell-mediated apoptosis)

**Cytoxilux cytotoxicity assay** (Fluo.)  BP8881, 50 tests
- Measure the caspase-6 (classic path of apoptosis)

**ImmuNoAssay - Tampons & Agents Saturants**

- **BSA powder**  UPQ84170, 100g  UPQ84172, 1Kg
- **BSA 30% solution**  UP900100, 50ml  UP900101, 500ml
- **SeaBlock solution** (non mammalian serum)  UP40301A, 500ml
- **Tween® 20, pure**  15874A, 1 L
- **Tween® 20, 20% solution, oxidant free**  UP158740, 5 x 10 ml
- **PBS powder packs** (makes 10L)  UP68723A, 1 pack

**ImmuNoAssay - Anticorps Secondaires**

- **anti Human IgG(H+L) – HRP (Gt)**  UP135240, 1mg
- **anti Rabbit IgG(H+L) – HRP (Gt)**  UP511380, 1mg
- **anti Mouse IgG(H+L) – HRP (Gt)**  UP446330, 1mg
- Many other formats and specificities are available (species, host, pre-adsorbed, Fab', anti-isotypes)

**ImmuNoAssay - Substrats chromogéniques**

- **TMB, "Standard" solution**  UP664780, 200 ml
- **BCIP/NBT**  UP099851, 100ml
- **pNPP Tablets (30mg pNPP weighed)**  UP732500, 100 Tabs
- **pNPP Solution for ELISA**  UP664791, 500 ml
- **UptiLight ELISA UltraSensitivity HRP ECL Substrate**  996201, 60ml  996203, 500ml
- Many other formulated substrates are available, but also powder, bulk quantities...

**Products HighLights Overview**

Information inquire

Reply by Fax : +33 (0) 4 70 03 82 60 or email at interbiotech@interchim.com

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Company/Institute: ____________________________________ Service, Lab: ___________________________

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