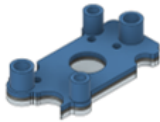



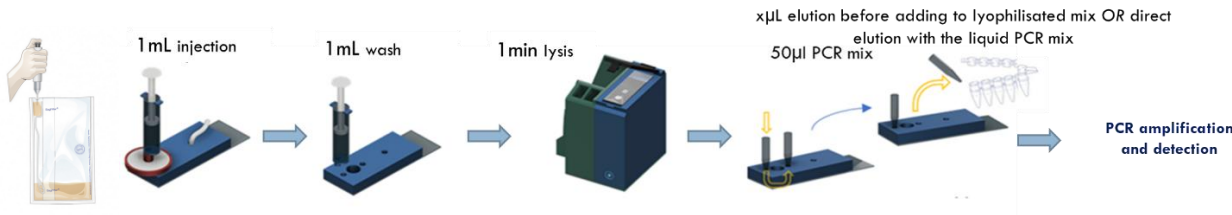





Product description XTRALYZ®

DNA Extraction Microfluidic chip

Accelerate, Simplify and Secure the DNA extraction to improve food-safety

Trade name of the product	Xtralyz® Laboratory consumable (single use)	
Company name	Direct Analysis Limited	Created in January 2021 Company qualified as DeepTech
Support from the public sphere		 
Production located	Grenoble (France)	Laboratory consumable (single use)
Technology	DNA/RNA extraction microfluidic chip	Product patented
Application ...	DNA/RNA extraction for detection of pathogenic bacteria by PCR	First market targeted ⇒ Food-industry
Compatibility extraction with PCR of the market	Yes, with all reagents from PCR equipment manufacturers	Yes, with all thermal cyclers on the market (<i>bioMerieux, Thermo-Fisher Scientific, Neogen, Bio-Rad, etc.</i>)
Benefits of using the Xtralyz® DNA extraction chip in the food industry	Reduction of the enrichment period to ±5 hours (instead of ±20 hours)	Sample collection = 1ml (instead of 100µL) No dilution of the sample
	Mechanical lysis	No use of chemical additives
	Fast extraction protocol	2 min. to lyse the bacteria trapped in the chip
	Washing step with water	Removal of free DNA (elimination of false positives)
	Simplicity of the steps	Injection – Wash – Lysis – Elution
	Safety of the extraction steps	All steps are conducted in the the microfluidic chip
	Pricing	± 50% of extra-cost compared to the price of a PCR Kit (depending on volumes)

Protocol																															
																															
Automation	<p>-Yes, via an automate which can handle one chip <i>Under development</i></p> <p>-Which can handle 8 chips <i>Next upgrade</i></p>																														
Performance validations	Yes, via crash tests by a technical reference center in France																														
	<table border="1"> <thead> <tr> <th>Time of enrichment</th> <th>Environment</th> <th>Vegetables</th> <th>Beef meat</th> <th>Other meat</th> <th>Raw milk/cheese</th> </tr> </thead> <tbody> <tr> <td><i>Salmonella</i> spp</td> <td>5h</td> <td>5h</td> <td>5h</td> <td>5h</td> <td>7h</td> </tr> <tr> <td><i>Listeria monocytogenes</i></td> <td>10h</td> <td>10h</td> <td>10h</td> <td>10h</td> <td>12h</td> </tr> <tr> <td><i>E. coli</i></td> <td>na</td> <td>na</td> <td>5h</td> <td>5h</td> <td>7h</td> </tr> <tr> <td><i>Cronobacter</i> spp</td> <td>na</td> <td>na</td> <td>na</td> <td>na</td> <td>7h</td> </tr> </tbody> </table>	Time of enrichment	Environment	Vegetables	Beef meat	Other meat	Raw milk/cheese	<i>Salmonella</i> spp	5h	5h	5h	5h	7h	<i>Listeria monocytogenes</i>	10h	10h	10h	10h	12h	<i>E. coli</i>	na	na	5h	5h	7h	<i>Cronobacter</i> spp	na	na	na	na	7h
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Commercialization (in the process of agreement)	Via usual distributors (<i>Thermo-Fisher Scientific, bioMerieux, Bio-Rad, Neogen, Hygiena, etc.</i>)	 <p><i>Non-contractual</i></p>																													