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UCD campus company to begin production of newborn screening kits for international markets

Enzolve Technologies, a UCD campus company based at NovaUCD and headed by former UCD post-doctoral researcher Dr Suren Aghajanian, has recently secured substantial investment from Enterprise Ireland to allow them to begin immediate production of diagnostic screening kits for newborn infants that will be of interest to emerging international markets.

Professors Paul Engel and Stephen Mayhew of the Centre for Synthesis and Chemical Biology (CSCB) and UCD Conway Institute, together with their research teams, have engineered the enzymes that will be used in these screening kits. The kits will be used by health practitioners to screen for seven of the inherited conditions most commonly screened for in newborns.



NovaUCD, UCD's Innovation and Technology Transfer Centre, where Enzolve Technologies is based

The screening of newborn infants for a variety of disorders that seriously damage their long-term health is well established in economically developed countries. In Ireland, for example, all newborns are routinely tested for five common disorders, including phenylketonuria, galactosaemia and congenital hypothyroidism. If left undetected and untreated any of these disorders will cause long term and serious damage to the infant. The Guthrie test – a blood test for phenylketonuria – is perhaps the best known of the diagnostic tests available.

The Enzolve product – known as 'NeoScreenPak' - offers some key advantages over the Guthrie test and other current screening methods in that a single format can be used to screen for seven of the eleven most commonly screened disorders affecting neonates, rather than needing a completely different set-up to screen for each condition. This level of convenience and cost-effectiveness is proving attractive to countries where screening programmes are as yet under-developed or under-funded.

The genetically engineered enzymes used in the NeoScreenPak testing kit are also extremely stable, and they make screening a 'one-step' process which is quicker and more reliable than the current options available. "We've had interest from China, Russia and South America", says Paul Engel. "These are huge markets and they are only at the beginning of the process of making neonate screening standard practice."

"The 'package deal' aspect of the test is the really compelling thing about it; it means it's easy to use by staff in hospital labs, and then of course it is cheaper, so that has relevance for less economically developed countries," he continues.

Production of trial batches of NeoScreenPak for validation has recently begun, and it is expected that it will be rolled out in a number of foreign markets early in 2008. Securing funding from Enterprise Ireland, matching input from private investors, has been key in furthering this commercialisation process.

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