Molecular Discovery Systems helping find floppy baby cure

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MOLECULAR Discovery Systems (MDSystems) is helping a West Australian research team to screen potential medications for an incurable childhood syndrome, following the recent announcement of an incredible breakthrough.

Perth-based MDSystems is a wholly-owned subsidiary of BioPharmica Limited and is providing its advanced high content imaging technology to a group at the Western Australian Institute of Medical Research (WAIMR), who recently restored muscle function in mice with congenital myopathy, or "floppy baby syndrome".

This type of myopathy prevents babies properly using their muscles, often leaving them paralysed. Some children do not survive past the age of one.

Technology provided by local firm Molecular Discovery Systems is allowing WA researchers to work on a cure for 'floppy baby syndrome' / Image: Istockphoto

In a world-first breakthrough, the researchers have interbred transgenic mice, which have expressed heart actin in skeletal muscles in order to maintain an expression of protein lacking in this type of myopathy.

Head of the WAIMR molecular neurogenetics laboratory Professor Nigel Laing says the next phase of research will be to find a way of maintaining the expression of heart actin in the skeletal muscle of the children.

"The best solution would be to find a drug to do this, so we are currently screening a drug library to perhaps find a something that has an unknown side effect," he says.

To do this, MDSystems use the imaging technology known as GE Healthcare InCell Analyser 1000 that provides highly-accurate analyses of cell activities and events and is the only one in WA.

The high content screening technology also provides software algorithms that allow screening for induction of protein expression in murine FBD fibres.

Prof Laing says the technology is a "brilliant system for analysing cultures".

"Basically it allows us to very rapidly and automatically scan culture plates," he says.