

Top scientist moves to S'pore to study diabetes

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PROFESSOR Karl Tryggvason, well known in the field of medical research, recently moved to Singapore to look at why diabetics suffer complications, particularly in this region.

The clinician-scientist aims to uncover the genes that make people susceptible to complications from diabetes.

The situation is especially serious in the region, since half of all diabetics in South-east Asia experience complications.

In the United States and Scandinavia, fewer adults get diabetes, he said, and only around one in three of them develop complications.

As a young man, Prof Tryggvason had his heart set on becoming an architect, but changed tack midway and chose medicine instead because it was "more stable".

Now 65, he poured his creative energy into research and has spent his career studying the body's connective tissue and the crucial role it plays in diseases such as diabetes.

The molecules that build up the tissue, called the extracellular matrix, are involved in many diseases, said Prof Tryggvason, who moved to Singapore four months ago and is now a professor in the cardiovascular and metabolic disorders programme at the Duke-NUS Graduate Medical School.

Here, his research will focus on understanding what causes diabetic complications such as nephropathy – the leading cause of end-stage kidney disease in Singapore; as well as blindness and leg amputations.

The kidneys contain millions of tiny blood vessel clusters that filter waste from the blood, and diabetes can damage this delicate filtering system.

His team will develop better ways to diagnose such patients, and test drugs to inhibit complications.

There are none available now, said Prof Tryggvason, who last year received the Singapore Translational Research Investigator Award, which is worth \$9.5 million over five years.

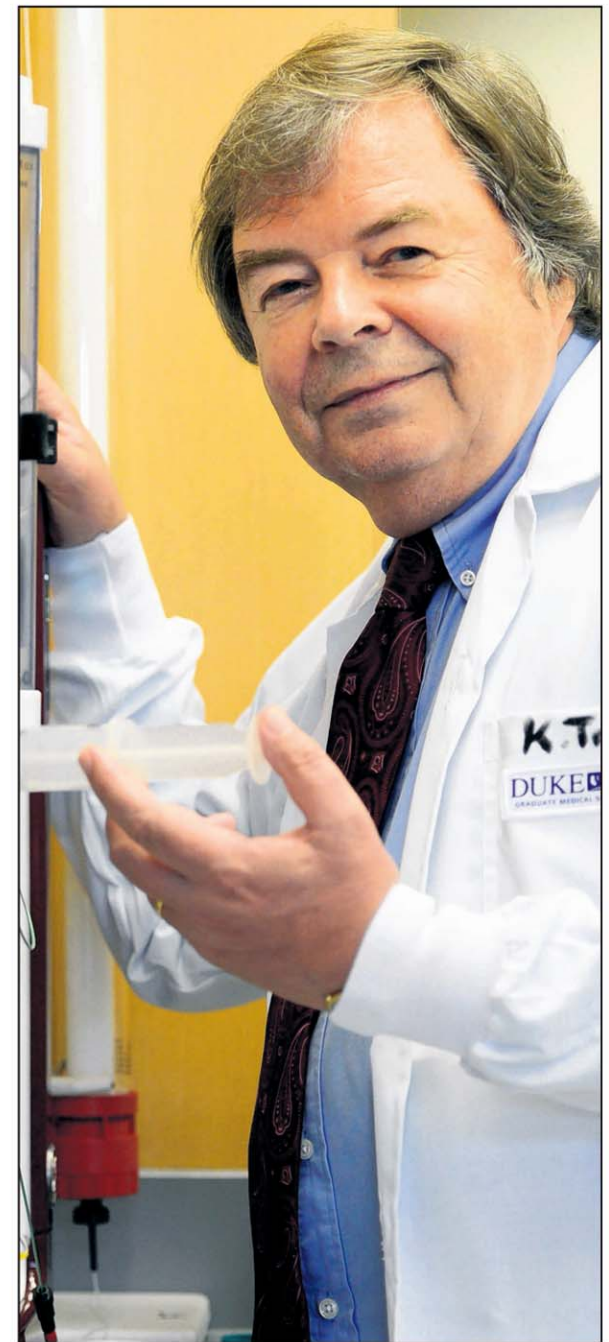
He has also been awarded the first Tanoto Foundation professorship in diabetes research, with an endowment of \$2.5 million.

On another front, he is looking at ways of growing different cell types in the petri-dish on unique extracellular matrix molecules generated by his group.

The molecules can help differentiate cells into various cell types, which he hopes one day can be used in cell therapy to replace the tissue ravaged by diabetes, for instance.

So far, his team has been able to culture and grow heart muscles in the lab and use them to treat heart injury in rats.

Prof Tryggvason, who has been a professor in the Depart-



Prof Tryggvason will keep his post in Sweden but now spends most of his time here. ST PHOTO: DESMOND FOO

ment of Medical Biochemistry and Biophysics at Karolinska Institutet in Stockholm since 1994, will keep his Swedish appointment, but now spends most of his time in Singapore.

"The scientific community in Singapore is extremely strong, very exciting, and there are very talented and successful scientists here," he said.

"Sweden is well known for its long history and strong support of science, so I believe I have the best of both worlds."

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