

BLOOMING WHERE SHE'S PLANTED

If success as a scholar depends on being adaptable, then Dr. Chlöe Milsom may be more suited to academia than most.

Milsom, who is doing her postdoctoral fellowship at Sunnybrook Research Institute (SRI), was born in Singapore, raised in England and has lived in Canada with her husband since 2000. After working as a research technician for a few years, Milsom earned her PhD from McMaster University. She moved to Toronto in June 2009 to join the lab of SRI senior scientist Dr. Robert Kerbel, whom she sought for his pioneering work on the use of antiangiogenic therapy—halting a tumour's growth by disrupting its blood supply—to treat cancer.

“He’s so well known throughout the world, particularly for tumour angiogenesis and advanced metastatic disease,” says Milsom of her mentor. “If this is the area you want to study, to come to his lab to do the training is such a fantastic experience. It’s very exciting to be able to do this work and become more independent and established.”

Part of becoming a successful researcher involves securing funding, a skill Milsom is learning quickly. She has already received two prestigious awards: a postdoctoral fellowship from Ontario’s Ministry of Research and Innovation (MRI) worth \$100,000 over two years and a L’Oréal Canada Women in Science fellowship worth \$20,000.

Competition for the awards was intense. Milsom was one of only six postdocs from the University of Toronto’s faculty of medicine to receive the MRI fellowship; moreover, only two L’Oréal Canada Women in Science fellowships were handed out this year.

Together, the fellowships will cover her salary. “I’m very pleased,” says Kerbel. “Graduate students or postdoctoral fellows who obtain such competitive awards



DR. CHLÖE MILSOM

invariably have their development as future independent investigators facilitated. The awards naturally boost the self-confidence of young investigators at a critical point in their training.”

Milsom will use the funds to study a curious phenomenon that occurs in the use of chemotherapy to treat cancer, particularly breast cancer. Chemotherapy, the use of toxic drugs to kill cancer cells, is the most common and, often, the most effective treatment for the disease. Although these drugs are initially helpful in shrinking tumours, the benefits of chemotherapy are compromised not only by harmful side effects, but sometimes also by the rapid regrowth of tumours.

Using preclinical models designed to mimic these responses to chemotherapy, Milsom seeks to identify the processes involved in a tumour’s regrowth by zeroing in on the blood cells known to be involved in the spread of cancer.

“One of the things that has been observed is that there’s an influx of cells from the bone marrow which home into the tumour

and contribute to tumour angiogenesis,” says Milsom. “So the patient’s own body is then helping the tumour to grow. I want to know what factors are being produced by these drugs that lead to this homing of the bone marrow-derived cells into the tumour.”

The chance to do research that can be translated from the lab to the clinic is one reason Milsom came to SRI. “Sometimes when you’re doing research you’re so far removed from helping patients. One of the thrills of coming to this lab is that Dr. Kerbel’s work is very relevant to the clinic,” she says.

She would like to run her own lab one day, but like so many women, Milsom faces the challenge of balancing her personal life with her professional goals. “I would love to have children,” she says. “My next challenge will be incorporating a family with my career. I’d like to do as much as I possibly can. I really want to make the most of my time in this lab and generate some good publications. It’s a fantastic opportunity so I want to use it to the fullest.” — Alisa Kim