Peter Lockyer BSc, PhD (1972–2006)

By Peter Cullen (University of Bristol, UK), Simon Cook (Babraham Institute, UK) and Len Stephens (Babraham Institute, UK).

Peter Lockyer, who died aged 34 on December 28th 2006 from metastatic colorectal cancer, was an exceptional young scientist with a bright future.

In a brief career he identified and characterized two new GTPase-activating proteins (GAPs) for the Ras GTPases, thereby uncovering a new mode of cross talk between the Ca\(^{2+}\) and Ras signalling systems. Much of his work was of a fundamental nature, defining new signalling mechanisms; however, these GAP proteins have recently been proposed as tumour suppressors, revealing much wider implications for his work.

Pete was born in Poole in 1972. His interest in science stemmed from his love of natural history, dinosaurs and all things pre-historic. As a child he kept rocks and fossils under his bed, rather than cars or trains, and enjoyed many hours at the beach searching for fossils and pottering in rock pools. Pete was educated at Poole Grammar School, studied Biochemistry and Physiology at the University of Southampton and stayed on there for his PhD with Professor Anthony Lee. Pete cloned and characterized the sarco(endo)plasmic reticulum Ca\(^{2+}\)-ATPase from the Tobacco Budworm, heliothis virescens and also described curcumin as an inhibitor of the mammalian SERCA. Over a curry Pete would happily describe what the meal was doing for the catalytic prowess of your SERCA pump - curcumin being the yellow pigment in turmeric!

In 1997 Pete moved to the Biochemistry Department at the University of Bristol, where he studied the GAP1 family of Ras GAPs, initially as an MRC funded post-doc, then as an independent Beit Memorial Fellow. In Bristol he published a series of papers describing how subtle variations in the modular domains of these proteins determined their regulation by second messengers. His major contribution was the cloning and characterization of a new Ras GAP – affectionately known as ‘Pete’s protein’. Pete established that this cytosolic protein underwent a rapid plasma membrane association upon receptor-mediated Ca\(^{2+}\) mobilization. He demonstrated that the C2 domains bound phospholipids in a Ca\(^{2+}\)-dependent manner and that membrane association led to inactivation of Ras.

Pete named the protein Ca\(^{2+}\)-Promoted Ras Inactivator or CAPRI (as an avid fisherman Pete was keen on the name CARP but this was dismissed after a PubMed search for CARP gave 8000 hits). The characterization of this protein brought Pete back to his first love – Ca\(^{2+}\) signalling.

Besides research, Pete’s time in Bristol saw him marry his childhood sweetheart Julie and the arrival of their first two daughters Phoebe and Martha. Pete took an active role in the Department social life, organizing Christmas parties and turning out for the Cricket Team - he was a great cider drinker, but a somewhat less than effective bowler! During this time Pete further developed his passion for Athletic Football Club Bournemouth – otherwise known as ‘the Cherries’. He wrote regularly for the fans website under the pseudonym ‘Ciderbelly’, and was passionate in his view that fans deserved a greater say in the way the club was run. Indeed, he played a role in the formation of the AFC Bournemouth Independent Supporters Association in 1999.

In 2002 the Babraham Institute won the top ‘high international’ category. Tragically, this was not to be and Pete was diagnosed with colorectal cancer in 2004. He met this disease with his normal stoicism and humour (he asked the surgeon for snap shots of his excised primary tumour and named it the ‘angry mouse’!) but his condition became terminal in early 2006. Pete retired from Babraham in April, returning to Poole and his childhood haunts on the South Coast. He spent his final days with Julie and “his girls”, playing on the beach and educating them in the location of his secret childhood fishing and crabbing spots. Any fish caught were immediately subjected to Pete’s legendary barbecuing skills!

In Pete’s short career there were no great honours or awards to report but the sheer numbers in attendance at his funeral were a fitting tribute and should leave Julie, Phoebe, Martha and Molly in no doubt of the great affection and high esteem in which he was held by friends and colleagues alike. He is greatly missed.