

ASCEPT International Travel Award

WorldPharma 2010, Copenhagen, Denmark

I would like to thank ASCEPT for the International Travel Award which allowed me to attend the conference WorldPharma 2010 in Copenhagen and present my research. This was my first international conference and it was an amazing experience. I presented a poster titled 'Extracellular loops 2 and 4 are required for N-arachidonyl glycine inhibition of the glycine transporter, GLYT2' and received a lot of valuable feedback. I was able to meet with scientists who are leaders in the field of neurotransmitter transporters and gain knowledge which I hope to apply to my future research.

My research focuses on the glycine transporters, GLYT1 and GLYT2 which regulate the level of glycine in the brain and spinal cord. Inhibition of GLYT1 and GLYT2 may be useful in the treatment of schizophrenia and chronic pain respectively. The leucine transporter, LeuT_{Aa}, is a bacterial homologue of the Na⁺/Cl⁻-dependent neurotransmitter family which includes the glycine, GABA, serotonin, noradrenaline and dopamine transporters. Due to the structural similarities of these transporters, findings for one transporter may help with our understanding of the other neurotransmitter transporters. LeuT_{Aa} was crystallized in 2005 and has greatly assisted with our understanding of the structure and function of the glycine transporters. At Worldpharma 2010 there were a number of oral and poster presentations on transporters from the Na⁺/Cl⁻-dependent neurotransmitter family which were very interesting.

Highlight presentations were the talks presented by Ulrik Gether, Jonathan Javitch and Randy Blakely in the focused conference Transmembrane Transporters: Perspectives for disease and drug discovery. The three speakers are leaders in the field of neurotransmitter transporters and discussed some of their recent research on the dopamine transporter, LeuT_{Aa}, and the serotonin transporter. The talks provided knowledge about how drugs and substrates interact with the dopamine and LeuT_{Aa} transporters and how mutations in the serotonin transporter can lead to an autistic phenotype in animal models. Jonathan Javitch presented data indicating that LeuT_{Aa} requires substrate to bind to both a primary and a secondary site to allow for substrate to be released into the intracellular side of the membrane. The findings presented trigger a number of questions about whether the glycine transporters have a similar mechanism of action.

The conference dinner was in Tivoli gardens an old amusement park in the centre of Copenhagen. It was a wonderful night surrounded by many fairy lights and I was able to meet with scientists from around the world. I was able to receive advice on career paths after my PhD and how to go about getting a post doctoral position. I strongly encourage other students to attend an international conference during their PhD as it allows you to meet potential post doctoral supervisors and hear keynote speakers from around the world which I would not have had the opportunity of hearing in Australia.

I would like to thank ASCEPT once again for giving me the opportunity to attend an international conference which would not have been possible without their generous support.

Many Thanks,

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