Intracerebral microdialysis in freely-moving animals is a powerful tool for investigating the neurochemical effects of centrally-acting drugs. We have been using this technique for over 15 years to support drug development. Key features of our microdialysis services are:

- Normal or transgenic animals
- Single or dual probe
- Compounds dosed po, ip, sc, iv or by reverse-dialysis
- Simultaneous measurement of DA, DOPAC, HVA, NA, 5-HT, 5-HIAA, GABA and glutamate
- High sensitivity analysis by UHPLC-ECD and HPLC-ECD ALEXYS™ systems

In this study we have used single-probe microdialysis to simultaneously measure the effects of nicotine on levels of DA, DOPAC, HVA, NA, 5-HT and 5-HIAA in rat nucleus accumbens. Nicotine significantly increased DA (DOPAC and HVA) in the nucleus accumbens, consistent with its known rewarding properties.

Results are adjusted means; n=8. Vertical arrows indicate time of drug administration. *p<0.05, **p<0.01, ***p<0.001 vs. saline.