

- Research and clinical scale production of 18 tracers accomplished using one platform

## NanoTek Microfluidic Synthesis System Compounds Synthesized to Date

<sup>18</sup>F

### Radiotracer

### Results

### Reference

FDG	62.49% Yield, >95% RCP, RSD 2.94%, n=12	L. Collier, Advion
Fallypride*	88% RCY, 13mCi product, Precursor reduced to 1-2%	S. Lu, NIH, Current Radiopharmaceuticals 2009
FLT	84 % Incorporation pre hydrolysis, 18% TCY of final product post hydrolysis and HPLC	L. Collier, Advion
FIAU*	12mCi desired product from 150mCi, 115 minutes, No HBr	H. Anderson, MSKCC, ISRS 2009
Altanserin	50 % RCY , Precursor reduced 50%	L. Collier, Advion, Application Note
2FA*	Ave. product yield of 115 mCi from 700mCi	H. Ravert, John Hopkins
FCH*	2x yield of conventional system	J. Lim, Queens Medical Center, Hawaii
<sup>18</sup> F-Labeled Ligand for Imaging Brain Peripheral Benzodiazepine Receptors	(N-fluoroacetyl-N-(2,5-dimethoxybenzyl)-2-phenoxyaniline), 85% RCY, 40µg precursor for preclinical study	J. Med. Chem., 2009, 52 (3), 688-699 DOI: 10.1021/jm8011855
[ <sup>18</sup> F] FEPPA*	90% RCY, 50% TCY. Made 1 GBq	C. Marzano, GSK, Advion Users' Meeting 2009
F-18 Benzoic Acid	RCP> 95%	C. Marzano, GSK, Advion Users' Meeting 2009
FAZA	80% RCY Fluorination at 100 deg C	P. Elsinga, Advion Users' Meeting 2009
F-18 Butyl Azide	80% RCY Fluorination at 160 deg C	P. Elsinga, Advion Users' Meeting 2009
FDG Peptide	85% RCY in 5 mins	V. Bouvet, Edmonton, ISRS 2009

<sup>11</sup>C

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Flumazenil *	RCY 93%	L. Brichard, Cambridge, EANM 2008
N- Methylspiperone *	RCY 66%	L. Brichard, Cambridge, EANM 2008
DAA 1106 *	RCY 60%	L. Brichard, Cambridge, EANM 2008
Raclopride **	>55% Incorporation Yield , Precursor reduced 50%>85%	L. Collier, Advion, Application Note
DTBZ**	>85% Incorporation Yield , Precursor reduced >90%	L. Collier, Advion, Application Note
Proprietary Carbonylation	?	A. Smith, Advion, SNM 2008
[ <sup>11</sup> C] DASB*	RCY 85%	S. Kealey, GSK, ISRS 2009
Amide production via Palladium(0)-mediated carbonylations *	80% Urea at 100 deg C, 70% Amide at 200 deg C.	S. Kealey, GSK, Advion Users' Meeting 2009

<sup>99m</sup>Tc

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Thiazole-based tridentate bifunctional chelate *	BTV Ligand: <sup>99m</sup> Tc = 1000:1, 160ng ligand consumed, > 90% RCP (cf. mw 40%)	P. Causey, CPCD, SNM 2009
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\* Customer site

\*\* Produced simultaneously on one system; clinical and pre-clinical doses

Radiochemical Yield (RCY) refers to the percentage of the product which is labelled in the desired radiochemical form, as assessed by an analytical technique such as TLC or HPLC. Total Chemical Yield (TCY) refers to the percentage of input activity which is collected as labelled radioactive product.

