Important Components of an Abstract

1. **Objectives or Introduction:** Describe topic, field of application, biological target, previous works, limitations.
2. **Methods:** Provide a brief description of the experiment, describe new compounds (or draw structures).
3. **Results:** Provide numbers! And maybe add table/figure.
4. **Conclusions:** Summarize key result achieved, difference/novelty/advancement with current literature.

Other Potentially Useful Components of an Abstract

1. **Acknowledgements**
2. **References**

Sample Author/Affiliation Content

Presenting Author FirstName Presenting Author LastName[1], 2nd Co-Author FirstName 2nd Co-Author LastName[2], 3rd Co-Author FirstName 3rd Co-Author LastName[3]
[1]Author Affiliation & Country, [2]Author Affiliation & Country, [3]Author Affiliation & Country

(Only distinct affiliations gain a new superscript number.)

Sample Abstract

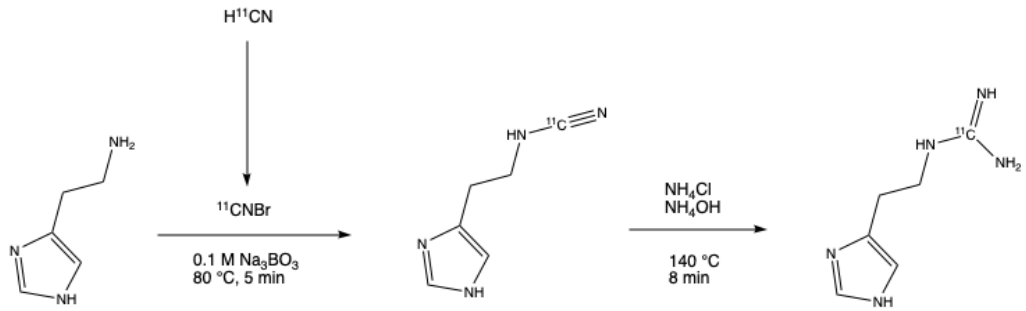
Objectives: In the field of nuclear medicine, radiolabeled guanidines serve important roles as imaging agents for diagnostics and therapeutics. Here we investigate the diagnostic potential of N-[2-(1H-imidazolyl-4-yl)ethyl]guanidine (IEG). IEG is a guanylated derivative of histamine, a nitrogenous compound involved in local immune responses and neurotransmitter. Using an automated method for the generation of terminal [^{11}C]guanidines previously developed by our group[1], we reported an automated method for radiosynthesis of [^{11}C]IEG for preclinical studies.

Methods: Production of [^{11}C]IEG was carried out using a GE TracerLab FX$_m$. Briefly, [^{11}C]Cyanogen bromide was formed from hydrogen [^{11}C]cyanide[2] and bubbled into a reactor containing the histamine precursor dissolved in a sodium borate buffer (pH 8.0). The mixture was heated to produce a [^{11}C]cyanamide intermediate[1] and then treated with a 35% ammonium chloride in ammonium hydroxide solution to yield [^{11}C]IEG (Scheme 1). The ammonium acetate buffer (pH 5.0) were added and the product was purified using prep-HPLC (Luna SCX 250x10mm; 10mM NH4OAc and 400mM NaCl in H2O; 5 mL/min). The peak around 12 min was collected and diluted with USP water for injection.

Results: We successfully synthesized [^{11}C]IEG and prior to purification, we achieved a radiochemical conversion (RCC) of 39.8% (N=3). After purification of [^{11}C]IEG, we achieved a radiochemical yield (RCY) of 19.5% with a radiochemical purity (RCP) greater than 95% based on analytic HPLC (Luna SCX columns 250x4.6mm, 10mM NH_4OAc and 400mM NaCl in H2O; 2 mL/min; UV 212nm and Rad).

Conclusions: Using the described methods, we successfully synthesized [^{11}C]IEG and developed an effective purification method without any organic solvent needed. The final injectable doses are qualified for periclinal use and potentially for clinical application. We have scheduled animal studies in the near future to explore the effects of [^{11}C]IEG *in vivo* and will report in due course.

References: [1] Austin Y. Zhao, Allen F. Brooks, David Raffael, Jennell Stauff, Janna Arteaga, Peter J. H. Scott, Xia Shao. Fully Automated Radiosynthesis of [11C]Guanidines as Cardiac Imaging Agents *ACS Med. Chem. Lett.* 2020, 11, 11, 2325-2330.
[2] Westerberg, G.; Kärger, W.; Onoe, H.; Långström, B. [11C]Cyanogen Bromide in the Synthesis of 1,3-Di(2-tolyl)-[11C]guanidine. J. Labelled Compds. Radiopharm. 1994, 34, 691-696.



Scheme 1