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# Disclosure

Braedan R.J. Prete

- Relationships with commercial interests: NONE
- Potential for conflict(s) of interest: NONE















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# Molecular Imaging via HyperCEST

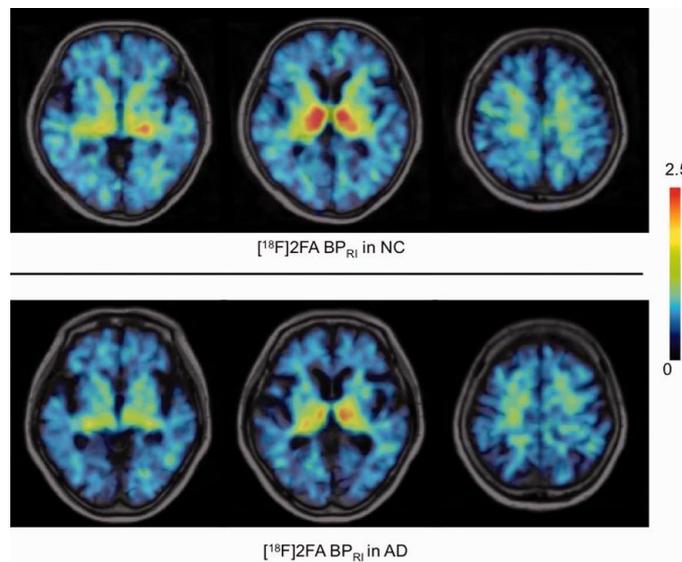
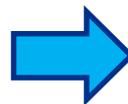
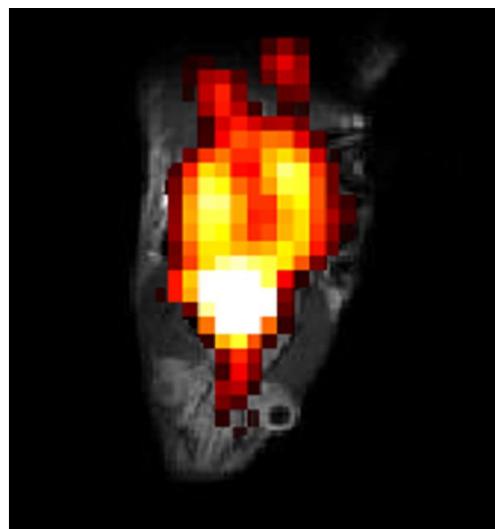


Image sources: Hane FT et al., (2017) *Sci. Rep.* 7, 41027. (left)  
Okada H et al., (2013) *Brain.* 136: 3004-3017. (right)





# Functionalized $^{129}\text{Xe}$ Biosensor Imaging Agents



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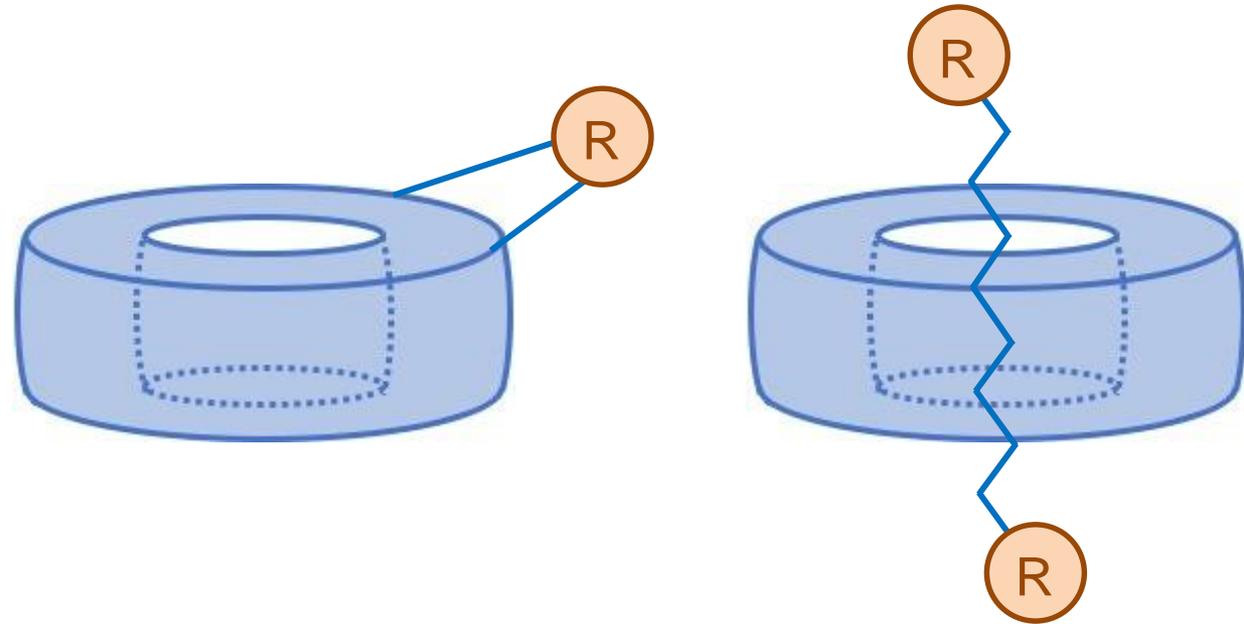
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 = Antibody/ affinity tag







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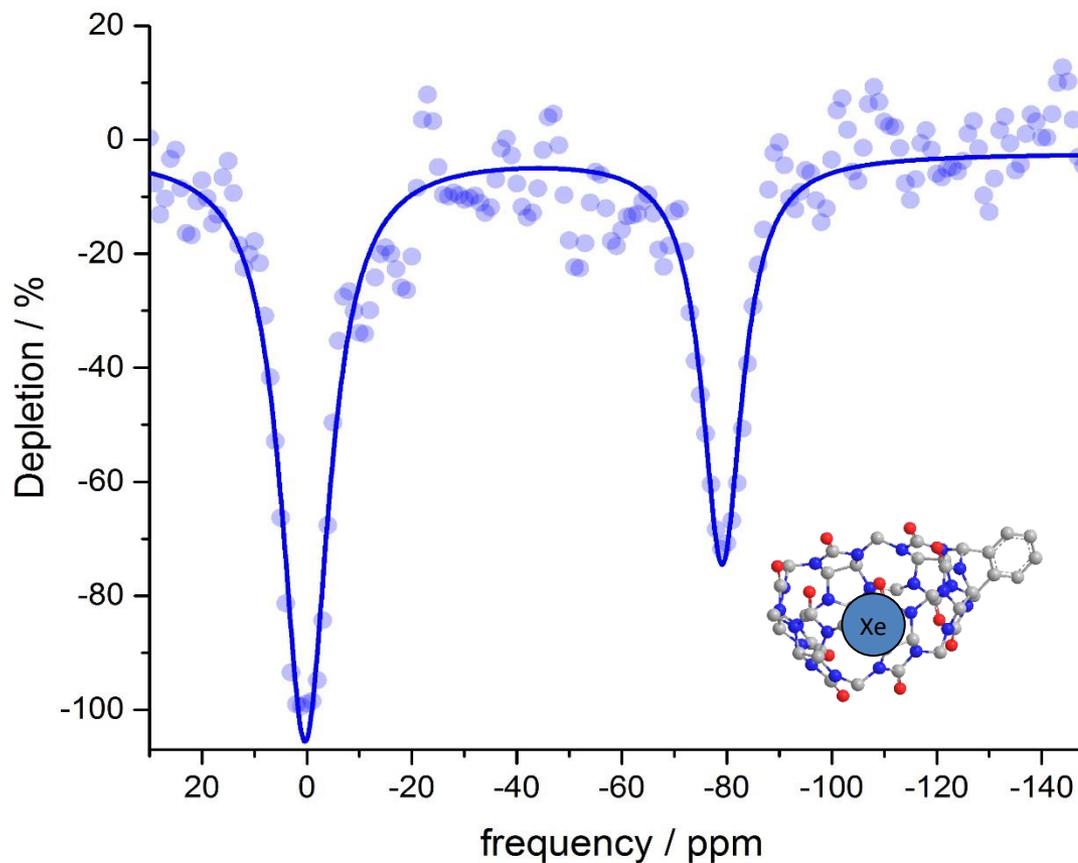


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# Experimental Results







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# Conclusions

- These results demonstrate that monofunctionalized CB6 derivatives and cyclodextrin-based pseudorotaxanes can successfully perform as a HP  $^{129}\text{Xe}$  molecular MR imaging agent *in vitro*.
- We have shown that these biosensor scaffolds can be used in MRI with comparable sensitivity to PET, but with enhanced spatial resolution and without to exposure to potentially harmful ionizing radiation.
- Ultimately, we believe that the future of molecular imaging and, in fact, the future of detecting early disease onset lies within this technology.





