Multi-Disciplinary Validation of CNS and Cancer Biomarkers and Imaging Probes
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Highlight A: Cancer Imaging Tracer Development:
Cancer cells consume a large amount of oxygen to produce energy to maintain their proliferative
status and require a constant supply of new DNA. Nuclear bases made in cancer cells for DNA
replication are under oxidative stress and are damaged much more frequently than in normal cells.
Dysfunctional redox regulation and increased reactive oxygen species (ROS) in cancer cells cause
oxidative damage either directly or indirectly to DNA. Upregulation of MTH1, an oxidized purine
nucleoside triphosphatase that specifically hydrolyzes oxidized purine nucleoside triphosphates,