[redacted] We will also use a range of radio labeled tracers (see #16b), to assess regional brain activity. For the PET imaging, all of the tracers will be administered IV. The rhesus monkey provides a unique opportunity to study brain systems repeatedly in a non-invasive manner. The only alternative would be to sacrifice the animal.

[redacted]

The rationale is based on our previous findings that fetal alcohol exposed monkeys have reduced dopaminergic activity (and up-regulation of D2 DA receptors). Behaviorally, they were found to demonstrate inattention, hyperactivity, and cognitive impairments, mimicking attention deficit hyperactivity disorder (ADHD) in children, which is also associated with reduced dopaminergic activity. [redacted]has been used to treat ADHD for more than 50 years, and it has been shown to induce short-term increases in attention and reduction of hyperactivity, [redacted] which inhibits dopamine uptake in the striatum, changing the synaptic DA concentration, should raise the concentration of DA in various brain regions and lead to an increase in attentiveness and a reduction in hyperactivity in the fetal alcohol exposed monkeys. We do not expect any change in the control subjects, however, if any change is evident, we expect to observe an increased activity level as a consequence of [redacted]

[redacted]