Alzheimer’s disease (AD) is currently the sixth-leading cause of death in the United States and has no cure. Difficulties in developing effective disease reversal remedies have been attributed mostly to the lack of early detection tools. Research data suggests that deposition aggregates of a protein known as amyloid-β (Aβ) plaques is one of several changes noted in the brains of individuals with potential to develop the disease. This may begin as early as 20 years before manifestation of clinical symptoms of the disease. Methods to detect amyloid plaques in the brain are therefore of interest. Three Positron Emission Tomography (PET) agents are currently approved for this purpose, but their availability is limited, and restricted to large academic medical centers. Magnetic Resonance Imaging (MRI) based agents offer more accessibility and worldwide availability. As shown in the accompanying figure, we have developed a novel amyloid-targeted liposomal nanoparticle agent which allows effective separation of amyloid-negative mice from amyloid-positive mice by MRI following intravenous administration in three different mouse models genetically engineered to mimic the human condition. The path to this discovery will be presented.