What is claimed is:

[Claim 1] Use of pulsed electromagnetic energy for treatment or prevention of a neurodegenerative disease in an individual previously diagnosed with the neurodegenerative disease or who was previously determined to be at risk of developing the neurodegenerative disease;

wherein the pulsed electromagnetic energy comprises radiofrequency or microwaves, has select energy parameters including wavelength, frequency, duty cycle, pulse train duration, or a combination thereof, the pulsed electromagnetic energy for raising a temperature of treated tissue or fluid to stimulate heat shock protein activation in the treated tissue or fluid.

[Claim 2] The use of claim 1, wherein the neurodegenerative disease is Alzheimer's disease.

[Claim 3] The use of claim 1 or 2, wherein the use is for direction of pulsed electromagnetic energy to one or more of a leaky blood-brain barrier, inflamed portions of the brain, junk proteins of the brain, beta amyloid proteins of the brain, or tangled tau proteins of the brain.

[Claim 4] The use of any one of claims 1-3, wherein the pulsed electromagnetic energy comprises a radio frequency between three to six megahertz, a duty cycle between 2.5% and 5.0% and a pulse train duration between 0.2 and 0.4 seconds.

[Claim 5] The use of claim 4, wherein the radio frequency is generated with a coil having a radius between 2 mm and 6 mm and between 13 and 57 amp turns.

[Claim 6] The use of any one of claims 1-5, wherein the use is for application of pulsed electromagnetic energy to the brain to cause resonant interactions within biomolecules within and around brain tissue.

[Claim 7] The use of claim 6, wherein the pulsed electromagnetic energy creates resonant interactions with conjugated pi electron systems in the biomolecules.

[Claim 8] The use of claim 7, wherein the resonant interactions disrupt the structural integrity of beta amyloid molecules.

[Claim 9] The use of claim 6, wherein the use further comprises spaced-apart electromagnetic emitters disposed adjacent a head of the individual.

[Claim 10] The use of claim 9, wherein electromagnetic fields of the spaced-apart electromagnetic emitters do not overlap.

[Claim 11] The use of claim 9, wherein the use further comprises a power level of each emitter so that an absorption rate in the brain is between 1.0 W/kg and 2.0 W/kg.

[Claim 12] The use of claim 9, wherein each emitter transmits a radio frequency field at 850-950 megahertz every 4 to 5 milliseconds.

[Claim 13] The use of claim 6, wherein the use is for application of pulsed electromagnetic energy to the brain for multiple, spaced-apart treatments each day.

[Claim 14] Use of pulsed electromagnetic energy for the treatment or prevention of neurodegenerative diseases in an individual previously diagnosed with a neurodegenerative disease or is at risk of developing a neurodegenerative disease;

wherein the pulsed electromagnetic energy, comprising radiofrequency or microwaves, has energy parameters including wavelength, frequency, duty cycle, pulse train duration or a combination thereof, to raise a temperature of treated tissue to stimulate heat shock protein activation in the treated tissue or fluid; and

wherein the use is for direction of the pulsed electromagnetic energy to one or more of a leaky blood-brain barrier, inflamed portions of the brain, junk

proteins of the brain, beta amyloid proteins of the brain, or tangled tau proteins of the brain.

[Claim 15] The use of claim 14, wherein the neurodegenerative disease is Alzheimer's disease.

[Claim 16] The use of claim 14 or 15, wherein the pulsed electromagnetic energy comprises a radio frequency between three to six megahertz, a duty cycle between 2.5% and 5.0% and a pulse train duration between 0.2 and 0.4 seconds.

[Claim 17] The use of claim 16, wherein the radio frequency is generated with a coil having a radius between 2 mm and 6 mm and between 13 and 57 amp turns.

[Claim 18] A pulsed electromagnetic energy system for preventing or treating neurodegenerative diseases, comprising:

a pulsed electromagnetic energy source for application to a brain, comprising radiofrequency or microwaves, having selected energy parameters including wavelength, frequency, duty cycle, pulse train duration, or combination thereof, wherein the pulsed energy parameters are to raise a temperature of treated tissue to stimulate heat shock protein activation in the treated tissue or fluid.

[Claim 19] The system of claim 18, wherein the neurogenerative disease is Alzheimer's disease.

[Claim 20] The system of claim 18 or 19, wherein the pulsed electromagnetic energy is for direction to one or more of a leaky blood-brain barrier, inflamed portions of the brain, junk proteins of the brain, beta amyloid proteins of the brain, or tangled tau proteins of the brain.

[Claim 21] The system of any one of claims 18-20, wherein the pulsed electromagnetic energy comprises a radio frequency between three to six megahertz, a duty cycle between 2.5% and 5.0% and a pulse train duration between 0.2 and 0.4 seconds.

[Claim 22] The system of claim 21, wherein the radio frequency is generated with a coil that has a radius between 2 mm and 6 mm and between 13 and 57 amp turns.

[Claim 23] The system of any one of claims 18-22, wherein the pulsed electromagnetic energy parameters are for application to the brain to cause resonant interactions within biomolecules within and around brain tissue.

[Claim 24] The system of claim 23, wherein the pulsed electromagnetic energy creates resonant interaction with conjugated pi electron systems in the biomolecules.

[Claim 25] The system of claim 24, wherein the resonant interactions disrupt the structural integrity of beta amyloid molecules.

[Claim 26] The system of claim 23, wherein a plurality of spaced-apart electromagnetic emitters are disposed adjacent to a head of the individual.

[Claim 27] The system of claim 26, wherein electromagnetic fields of the spaced apart electromagnetic emitters do not overlap.

[Claim 28] The system of claim 26, wherein the power level of each emitter is set so that a specific absorption rate in the brain is between 1.0 W/kg and 2.0 W/kg.

[Claim 29] The system of claim 26, wherein each emitter transmits a radio frequency field at 850-950 megahertz every 4 to 5 milliseconds.

[Claim 30] The system of claim 23, wherein the pulsed electromagnetic energy is for application to the brain for multiple, spaced-apart treatments each day.