Brazilian Institute awards US$ 20,000 to a researcher for discovering an antibody that sets the path for the discovery of a treatment for Amyotrophic Lateral Sclerosis

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Amyotrophic lateral sclerosis (ALS) is a devastating neurodegenerative disease which remains incurable. With the objective of calling attention to scientific studies that help to improve the quality of life of ALS patients and seek a cure for the disease, the Paulo Gontijo Institute (IPG) presents an annual award - the Paulo Gontijo Award- currently on its 13th edition. This year's award was given to the Italian researcher Silvia Tozzi, whose research was titled "Monoclonal full-length antibody against TAR DNA binding protein 43 reduces related proteinopathy in neurons". The twenty-thousand-dollar prize was offered by the Brazilian institute to the researcher to support her studies.

The 2021 awards ceremony took place during the opening of the Annual International Symposium on Amyotrophic Lateral Sclerosis and Motor Neuron Diseases (MND Association), an online event broadcasted directly from London due to the new coronavirus pandemic.

The Research

Straight from the Cervo Brain Research Center at Laval University, Quebec, Canada, Silvia Pozzi focused on Antibody-based approaches which have been emerging as effective and feasible therapeutic interventions for different neurodegenerative disorders.

"For this reason, we produced and tested the target specificity, in vivo distribution, and therapeutic efficacy of a monoclonal full-length antibody generated against the protein TDP-43"

In normal conditions this protein can shuttle between the nucleus and the cytoplasm, but in ALS it remains in the cytoplasm where it forms aggregates and becomes toxic.

"We demonstrated the ability of the antibody to specifically target the pathological protein in the cytoplasm of the cells. We injected the antibody in TDP-43 mutant mice and showed that it was able to reduce the levels of this protein by activating degradative pathways inside the cell."

This study demonstrates the therapeutic efficacy and feasibility of a full-length antibody against TDP-43 for the treatment of ALS.

According to the chairman of the International Judging Panel of the IPG, the neurologist Professor Dr. Mamede de Carvalho, this study is innovative since it opens the doors to discover alternative treatments and therapies for ALS patients.

About the Paulo Gontijo Award

Since 2007, the Paulo Gontijo Award, also known as the PG Award, has been awarding young researchers to seek the cause and cure of Amyotrophic Lateral Sclerosis (ALS). It was created by Paulo Gontijo himself, whose legacy lingers through research projects that foster science and through the creation of the Paulo Gontijo Institute. The theses nominated for the award are rigorously judged by a panel of judges of the Paulo Gontijo Institute (IPG), composed of five members who are researchers internationally recognized by the international scientific and medical community. From 2008 through 2011, the Paulo Gontijo Award also recognized the best theses published in Brazil in the areas of Physics, Chemistry and Mathematics, in partnership with the Coordination for the Improvement of Higher Education Personnel (CAPES), an institution within the Ministry of Education in Brazil.

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