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Title: Alpha-synuclein dimerization in erythrocytes of patients with genetic and non-genetic forms of Parkinson's Disease

Authors: Nikolaos Papagiannakis, Christos Koros, Maria Stamelou, Athina-Maria Simitsi, Matina Maniati, Roubina Antonelou, Dimitra Papadimitriou, Georgia Dermentzaki, Marina Moraitou, Helen Michelakakis, Leonidas Stefanis



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## Alpha-synuclein dimerization in erythrocytes of patients with genetic and non-genetic forms of Parkinson's Disease

Nikolaos Papagiannakis, MD<sup>1,2</sup>, Christos Koros, MD, PhD<sup>2</sup>, Maria Stamelou, MD, PhD<sup>2</sup>, Athina-Maria Simitsi, MD<sup>2</sup>, Matina Maniati, PhD<sup>1</sup>, Roubina Antonelou, MD, PhD<sup>2</sup>, Dimitra Papadimitriou, MD, PhD<sup>3</sup>, Georgia Dermentzaki, PhD<sup>1</sup>, Marina Moraitou, PhD<sup>4</sup>, Helen Michelakakis, PhD<sup>4</sup> and Leonidas Stefanis, MD, PhD<sup>1,2\*</sup>

<sup>1</sup> Center of Clinical Research, Experimental Surgery and Translational Research, Biomedical Research Foundation of the Academy of Athens, Athens, Greece

<sup>2</sup> 2nd Department of Neurology, Attikon Hospital, Medical School, National and Kapodistrian University of Athens, Athens, Greece

<sup>3</sup> "Henry Dynan" Hospital, Athens, Greece

<sup>4</sup> Department of Enzymology and Cellular Function, Institute of Child Health, Athens, Greece

\*Corresponding author

Center of Clinical Research, Experimental Surgery and Translational Research  
Biomedical Research Foundation of the Academy of Athens (BRFAA)  
4 Soranou Efesiou Str, Athens 11527, Greece  
Tel: +30 2106597214, Fax: +30 2106597545, e-mail: lstefanis@bioacademy.gr

### Highlights

- Erythrocyte membrane  $\alpha$ -syn dimer is elevated in PD patients with no known mutations.
- Erythrocyte membrane  $\alpha$ -syn dimer is elevated in PD patients with GBA mutations.
- There is no  $\alpha$ -syn dimer level difference in p.A53T  $\alpha$ -syn mutation carriers.
- The increased  $\alpha$ -synuclein dimer levels in idiopathic and GBA-associated PD are suggestive of a systemic dysfunction, possibly leading to altered lipid composition of the erythrocyte membrane

### Abstract

**Background:** Variations of  $\alpha$ -synuclein levels or species have been reported in Parkinson's Disease (PD). There has been little systematic examination of erythrocytes, a rich source of  $\alpha$ -synuclein.

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