



Serhiy Komisarenko

**Serhiy Vasylovych Komisarenko** ( [Ukrainian](#) : Сергій Васильович Комісаренко; Russian: Сергей Васильевич Комисаренко)

born July

9, 1943

in

[Ufa](#)

,

[Bashkortostan](#)

,

[USSR](#)

is a Ukrainian scientist

,

politician

,

statesman

and diplomat

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**Current occupations:** Academician-Secretary of the National Academy of Sciences of Ukraine (since 2004); Director, Palladin Institute of Biochemistry (1989-1992 and since 1998); Head, Department of Molecular Immunology, Palladin Institute of Biochemistry (1982-1992, since 1998); Chairman, Commission on Biosafety and Biosecurity at the National Security and Defence Council of Ukraine (since 2007); President, Ukrainian Biochemical Society (since 1999); President, Ukrainian Biosafety Association (since 2013).

**Education:** Kyiv Medical Institute with distinction – MD (1960-1966); Department of Mechanics & Mathematics of Kyiv State University (1964-1966); Post graduate course in Biochemistry in the Institute of Biochemistry Kyiv – PhD (1966-1969); Courses on Advanced Immunology in Pasteur Institute in Paris, France (1974-1975); Institute of Molecular Biology and Genetics in Kyiv – DSci. in Molecular Biology and Biochemistry (1989).

**Degrees, titles and honours:** Doctor of Medicine (1966), PhD in Biochemistry (1970), Doctor of Sciences in Molecular Biology and Biochemistry (1989), Ukrainian State Award on Science (1979), Professor of Biochemistry (1989), Member (academician) of the Ukrainian Natl. Acad. Sciences (1991) and of the Ukrainian Natl. Acad. Med. Sciences (1993), Honorary Doctor of Sciences: Kingston University, UK (1997) and North London University, UK (1997), Palladin Award in Biochemistry (2003), Mechnikov Award in Immunology (2011), Honorary Professor of Odesa National University (2010), Honorary Member of the Polish Biochemical Society (2011), Honorary Member, World Immunopathology Org. (2013); Ambassador Extraordinary and Plenipotentiary of Ukraine (1992). Honorable citizen of Kyiv City (2019).

**Ukrainian State Awards:** "Order of Freedom" (2018), Order of "Yaroslav the Wise" (2005), State Order of "Merit" (III degree-1996, II degree-1998, I degree-2013). PR China: Order "Friendship" (2012)

## **Scientific career**

Prof. Komisarenko is a founder of molecular immunology in Ukraine. His main scientific interests are in immunochemical analysis of peptide and protein antigenic structure as well as to Biosafety and Biosecurity

He is a founder of molecular immunology studies in Ukraine. He and his team were the first in

the former USSR to implement immunoenzyme methods, monoclonal antibody technique as well as flow cytometry in research. S. Komisarenko and his pupils studied extensively the biological activity of phosphorus organic compounds – phosphonates. As a result the immunomodulating and anti-tumour activity of some bisphosphonic acids' derivatives were found. Among other results obtained were: the establishment of antigenic structure of neurotoxin apamin, of cytochrome

c

, of acetyl-choline receptor, of some peptides and proteins of blood-clotting system etc. He studied the role of calcium, cyclic nucleotides and protein kinases in lymphocyte activation *etc.*

He was the Head of Ukrainian Scientific Immunology Programme (1978-1986) and in 1986-87 under his leadership it was found that low-dose radiation

after the Chernobyl fall-out caused dramatic decrease in natural killer cells (NK cells) number and in their activity in

people involved in cleaning

the

Chernobyl Nuclear Power

.

This immune suppression he named "Chernobyl AIDS".

He

also

has invented several medicines and immunodiagnostics.

**Invited lecturer:** Kyiv National University: Head, Department of Biotechnology (2002-2019); Kyiv Branch of Moscow Physics-Technical. Institute: Molecular Immunology (1982-1991); Kyiv State University: Course on Immunochemistry (1975-1984).

## Miscellaneous

1974-1975 - scholarship in Pasteur Institute in Paris, France; 1981 - scholarship in Sloan Kettering Cancer Institute in New York, USA; Editor-in-chief "Ukrainian Biochemical Journal" (1989-1992 and since 1998) and "Biotechnology Acta", member of the Editorial Board of International Journal of Immunology and Immunopharmacology (Italy) and of the journal of the Polish International Affairs Institute "Europe"

(«

Европа

»)

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Chairman:

of the Babij Yar Commemoration Committee (1990-1991), of the Government Committee for the Congress of Ukrainians (1991-1992), of the Ukrainian Government Commission for the Humanitarian aid (

1990-

1992), of the Ukrainian Government anti-AIDS Commission (1990-1992). Chairman of the charity "Chernobyl Relief Foundation" (London, 1993-1998).

He was elected:

President of the Ukrainian Biochemical Society (

since

1999), First Deputy Chairman of the Ukrainian Peace Council (

since

1999), President of the Ukrainian Institute for Peace and Democracy (

since

1999),

President of the charity "Special Olympics Ukraine" (since 2002), Chairman of the Board of the International Foundation for the National Memory of Ukraine (since 2007), Honorary member and member of the Board of Directors of the British-Ukrainian Chamber of Commerce (since 1998),

President of the Ukrainian Biosafety Association (

since

2013),

etc.

In 2007 he was nominated by the President of Ukraine as Chairman of the Commission on Biosafety and Biosecurity at the National Security and Defence Council of Ukraine.

## **Political and Statesmanship**

S. Komisarenko was Deputy Prime Minister of [Ukraine](#) , responsible for humanitarian matters - public health, science and technology, education, culture and religion etc (

from 1990 to 1992

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. He was the first

Extraordinary and

Plenipotentiary Ambassador to the

[United Kingdom](#)

from 1992 to 1998, and

simultaneously

to

[Ireland](#)

from 1995 to 1998.

F

ounding member of the National Salvation Forum (2001)

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C

andidate to the post of the President of Ukraine (2004 elections).

## Interests

Music, alpine skiing, tennis, clay-pigeon shooting.

## Publications (monographs):

"Radiation and Human Immunity" (Kyiv, 1994), "Structure and Biological activity of Bacterial Biopolymers" (Kyiv, 2003), "Biochemistry and Biotechnology for Modern Medicine" (Kyiv, 2013), "Molecular Mechanisms of Fibrin Formation and Degradation" (Kyiv, 2013), «Nanosizable systems and nanomaterials», (Kyiv, 2014), "Biosafety During the Biological Investigations" (Kyiv, 2019), "Application of Immuno-Enzyme Methods for the Laboratory Diagnostics of Intravascular Thrombus Formation Threat" (Kyiv, 2019)

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Editor-in-Chief of the Ukrainian edition of the 4

th

edition of "Lehninger Principles of Biochemistry".

**Publications** (articles). Selected partial list of over 400 scientific articles and patents in the field of Biochemistry and/or Immunology as well as

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rticles on Ukrainian culture and politics.

1.Lugovskoi E.V., et al., Komisarenko S.V. A neoantigenic determinant in coiled coil region of human fibrin  $\gamma$ -chain. Thrombosis Research, 2009, 123, p.765-770.

2.Lugovskoy EV, et al., Komisarenko SV. Calix[4]arene methylenebisphosphonic acids as inhibitors of fibrin polymerization. FEBS Journal, 2011, 278, №8 p. 1244-51.

3.Gergalova G., et al., Komisarenko S., Skok M. Mitochondria Express  $\gamma$  Nicotinic Acetylcholine Receptors to Regulate  $Ca^{2+}$  Accumulation and Cytochrome c Release: Study on Isolated Mitochondria // PLoS ONE. – 2012. – Vol. 7, Issue 2. – e31361. – (8 p.). 327.

4.Kalashnyk O., et al., Komisarenko S., Skok M. Expression, function and cooperating partners of protease-activated receptor type 3 in vascular endothelial cells and B lymphocytes studied with specific monoclonal antibody // Molecular Immunology. – 2013. - Vol. 54, N 3-4. – P. 319–326.

5.Gergalova G., Lykhmus O., Komisarenko S., Skok M.  $\gamma$  Nicotinic acetylcholine receptors control cytochrome c release from isolated mitochondria through kinase-mediated pathways // Int J Biochem Cell Biol. – 2014 – V. 49. – P. 26-31.

6.Chernyshenko V., et al., Komisarenko S. Fibrin(ogen)olytic and platelet modulating activity of a novel protease from the Echis multisquamatis snake venom // Biochimie. – 2014. – Vol. 105. P. 76-83.

7.Chernyshenko V.O., et al., Komisarenko S.V. Calix[4]arene C-145 Effects on Plasma Haemostasis. // Pharm Anal Acta. - 2015.- Vol. 6, N8, - p.406-410.  
doi:10.4172/21532435.1000406.

8.Lykhmus O, Koval L, Pastuhova D, Zouridakis M, Tzartos S, Komisarenko S, Skok M. The role of carbohydrate component of recombinant  $\gamma$  nicotinic acetylcholine receptor extracellular domain in its immunogenicity and functional effects of resulting antibodies. Immunobiology. 2016 Dec; 221(12):1355-1361, doi: 10.1016/j.imbio.2016.07.012.

9. Lykhmus O., et al., Komisarenko S., Skok M. Mesenchymal stem cells or interleukin-6

improve episodic memory of mice lacking  $\alpha 7$  nicotinic acetylcholine receptors // Neuroscience. – 2019. N 413. – P. 31-44.