



# Svetlana Mojsov, Ph.D.

LULU CHOW WANG AND ROBIN CHEMERS NEUSTEIN RESEARCH PROFESSOR

**A biochemist whose work has translated into widely used treatments for diabetes and weight loss, Mojsov's long-standing interests are in understanding how peptides and small proteins regulate physiological processes in healthy and disease states. She applied her expertise in the chemical synthesis of peptides in numerous lines of research, including studies which led to her discovery of glucagon-like peptide 1 (GLP-1), an incretin hormone produced by gut tissue that plays a key role in insulin secretion and glucose metabolism.**

Mojsov is listed as co-inventor on a series of patents for the use of GLP-1 for treatment of diabetes that were licensed to the pharmaceutical company Novo Nordisk. This work was later used to develop a new class of therapeutic medicines for treatment of Type 2 diabetes that are marketed under the trade names Victoza, Ozempic and Rybelsus. Victoza and Ozempic, approved for weight loss under trade names Saxenda and Wegovy, respectively, are now used by millions of individuals with Type 2 diabetes and obesity to control their glucose levels or lose weight.

Mojsov has launched additional studies of the function of GLP-1 in fish glucose metabolism, which is controlled by different regulatory networks than in mammals. During evolution, teleost fish underwent a whole genome duplication that gave rise to duplicated genes, including two glucagon genes that encode two proglucagon proteins, one expressed in the intestines and a second one in the pancreatic islets. In fish, insulin is not a glucoregulatory hormone and GLP-1 is not an incretin. Instead, GLP-1 regulates glucose metabolism through its actions in the liver by a mechanism similar to glucagon. Like in mammals, GLP-1 is released in the brain and controls the feeding behavior of fish. Mojsov, in collaboration with Deena Oren from the Structural Biology Center at The Rockefeller University, has shown through analysis of existing three-dimensional structures that the biological effects of GLP-1 in fish are not transmitted by binding to a GLP-1 specific receptor, but instead through a receptor with dual ligand selectivity towards glucagon and GLP-1. It is the first and only example so far of a vertebrate G-protein coupled receptor (GPCR) with dual ligand specificity towards GLP-1 and glucagon.

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## EDUCATION

B.S. in physical chemistry, 1971  
Belgrade University  
Ph.D. in biochemistry, 1978  
The Rockefeller University

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## POSTDOC

The Rockefeller University, 1978–1981

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## POSITIONS

Research Associate, 1981–1983  
The Rockefeller University  
Member, Endocrine Unit, 1983–1990  
Assistant in Biochemistry, 1983–1990  
Director of the HHMI/Massachusetts General Hospital  
Core Facility, 1983–1990  
Massachusetts General Hospital  
Instructor in Medicine, 1983–1990  
Harvard Medical School  
Associate, 1983–1990  
Howard Hughes Medical Institute  
Assistant Professor, 1990–2002  
Research Associate Professor, 2002–2026  
Research Professor, 2026–  
The Rockefeller University

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## AWARDS

VinFuture Prize for Innovation, 2023  
Nature's 10, 2023  
Pearl Meister Greengard Prize, The Rockefeller University, 2024  
The 100 Most Influential People, Time Magazine, 2024  
The 100 Most Influential People in Health, Time Magazine, 2024  
Tang Prize, 2024  
Princess of Asturias Award, 2024  
Lasker-DeBakey Clinical Medical Research Award, 2024  
Princess of Asturias Award for Technical & Scientific Research, 2024  
The Warren Triennial Prize, Massachusetts General Hospital, 2025  
Breakthrough Prize in Life Sciences, 2025  
Distinguished Medical Science Award, National Library of Medicine, 2025  
King Faisal Prize in Medicine, 2026  
Carothers Award, Delaware Section of the American Chemical Society, 2026  
Meinehofer Award, Boulder Peptide Foundation, 2026

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## HONORARY SOCIETIES

National Academy of Sciences

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## SELECTED PUBLICATIONS

Irwin, D.M. and Mojsov, S. Diversification of the functions of proglucagon and glucagon receptor genes in fish. *Gen. Comp. Endocrinol.* 261, 148–165 (2018).  
Oren, D.A. et al. Structural Mapping and Functional Characterization of Zebrafish Class B G-Protein Coupled Receptor (GPCR) with Dual Ligand Selectivity towards GLP-1 and Glucagon. *PLoS One* 11, e0167718 (2016).  
Nathan, D.M. et al. Insulinotropic actions of glucagon-like peptide-1 (7-37) administered to diabetic and non-diabetic human subjects. *Diabetes Care.* 15, 270–276 (1992).  
Mojsov, S. et al. Insulinotropic: glucagon-like peptide I (7-37) co-encoded in the glucagon gene is a potent stimulator of insulin release in the perfused rat pancreas. *J. Clin. Investig.* 79, 616–619 (1987).  
Mojsov, S. et al. Preproglucagon gene expression in pancreas and intestine diversifies at the level of post-translational processing. *J. Biol. Chem.* 261, 11880–11889 (1986).