

Company Summary Osasuna Therapeutics SA

Osasuna (that in Basque language means health, force, or effect) is a biotech company founded in 2022, based on the pioneering research in the field of autophagy by Professor Guido Kroemer at the Centre de Recherche des Cordeliers, Sorbonne University, University of Paris, France. In 2019 the Kroemer group showed that short-term starvation of cultured cells or mice caused the autophagy-dependent cellular release of ACBP/DBI (acyl-CoA-binding protein, ACBP also known as diazepam-binding inhibitor, DBI) and consequent ACBP/DBI-mediated feedback inhibition of autophagy.

Extracellular ACBP/DBI levels are elevated in various disease conditions. Such as in obese patients where elevated levels correlate with BMI and AST as sign of liver injury; in plasma from patients with kidney disease; in plasma from patients with HCC or ovarian tumours; in plasma from (still cancer-free) Li Fraumeni syndrome; and in plasma from patients with severe Covid-19. In contrast, ACBP/DBI levels are significantly reduced in Anorexia nervosa patients.

Neutralization of ACBP/DBI with monoclonal antibodies (mAbs) induces autophagy, protects diverse organs (heart, kidney, liver and lung) against physical or chemical damage, mediates senolysis, inhibits inflammation, and improves cancer immunosurveillance. In preclinical models, ACBP/DBI neutralization mediates broad effects against age-associated conditions including metabolic syndrome, NASH, osteoarthritis and cancer. The effects of ACBP/DBI neutralization by mAbs are mimicked by genetic manipulations (such as its inducible knockout of DBI or mutation of the GABRG2 receptor), confirming that such mAbs act through on-target effects. Since complete and durable genetic suppression of the ACBP/DBI/GABRG2 system in mice has no side effects, it appears that its inhibition is safe.

The company is developing innovative proprietary therapeutic antibodies and antibody-fusion proteins targeting the extracellular ACBP/DBI biology. IND-enabling studies will start in Q1-2025.