

Link between GSL antigens and tumor survival in breast cancer found in a new research

19 February 2019 | News

This study supports the scientific basis for OBI's anti-Globo series pipeline and use of antibodies against the GSL antigens in treatment of breast and solid tumor cancers.



A team led by Dr. Chi-Huey Wong, Distinguished Research Fellow, Academia Sinica in Taiwan, in collaboration with OBI scientists, has demonstrated in a recent study that the Globo-series glycosphingolipid (GSL) antigens: Globo-H, SSEA-3, and SSEA-4 are specifically expressed on cancer cells and are found to correlate with tumor survival. This finding supports the basis of the anti-Globo series pipeline under development by OBI Pharma Inc.

The article entitled "Signaling pathway of globo-series glycosphingolipids and β 1,3-galactosyltransferase V (β 3GalT5) in breast cancer" was published ahead of print on February 11, 2019 in the Proceedings of the National Academy of Sciences (PNAS). The study indicated that the GSL antigens can form a complex in membrane lipid raft with protein kinases such as caveolin-1 (CAV1), AKT, FAK and RIP. The reaction can trigger signaling pathways and promote tumor survival. Conversely, when GSL antigens are unavailable or dysfunctional, these protein kinases cannot signal to promote tumor survival.

OBI's anti-Globo series pipeline, such as OBI-888 (Globo H mAb) and OBI-898 (SSEA-4 mAb), targets high Globo H and SSEA-4 expressing cancers, suppressing or removing Globo H and SSEA-4 antigens to trigger tumor apoptosis. This study supports the scientific basis for OBI's anti-Globo series pipeline and use of antibodies against the GSL antigens in treatment of breast and solid tumor cancers.

OBI Pharma has a diverse portfolio of innovative cancer therapies at various stages of development. OBI is focused on the development of novel active and passive immune therapies including therapeutic vaccines, monoclonal antibodies, antibody drug conjugates-specifics, and a tumor-specific prodrug targeting the enzyme AKR1C3

OBI Pharma is the only company with a mid-to-late-stage immuno-oncology pipeline targeting the Globo Series of glycosphingolipids Globo H, SSEA-3, and SSEA-4 and has the potential to combine Globo Series antibodies with antibodies against other targets such as PD-L1, VEGF, OX-40, and CD-40 to expand its portfolio of bispecifics.

OBI Pharma has initiated a global Phase 3 trial in Triple Negative Breast Cancer patients with Adagloxad Simolenin, a therapeutic vaccine targeting the antigen Globo H ceramide which is expressed on the surface of epithelial tumor cells.

OBI Pharma has received orphan drug status for two products in Phase 1 development: OBI-888, a first-in-class monoclonal antibody targeting Globo H in patients with pancreatic cancer, and OBI-3424 a prodrug targeting tumors expressing the enzyme AKR1C3 in patients with acute lymphoblastic leukemia (ALL) and hepatocellular carcinoma (HCC).