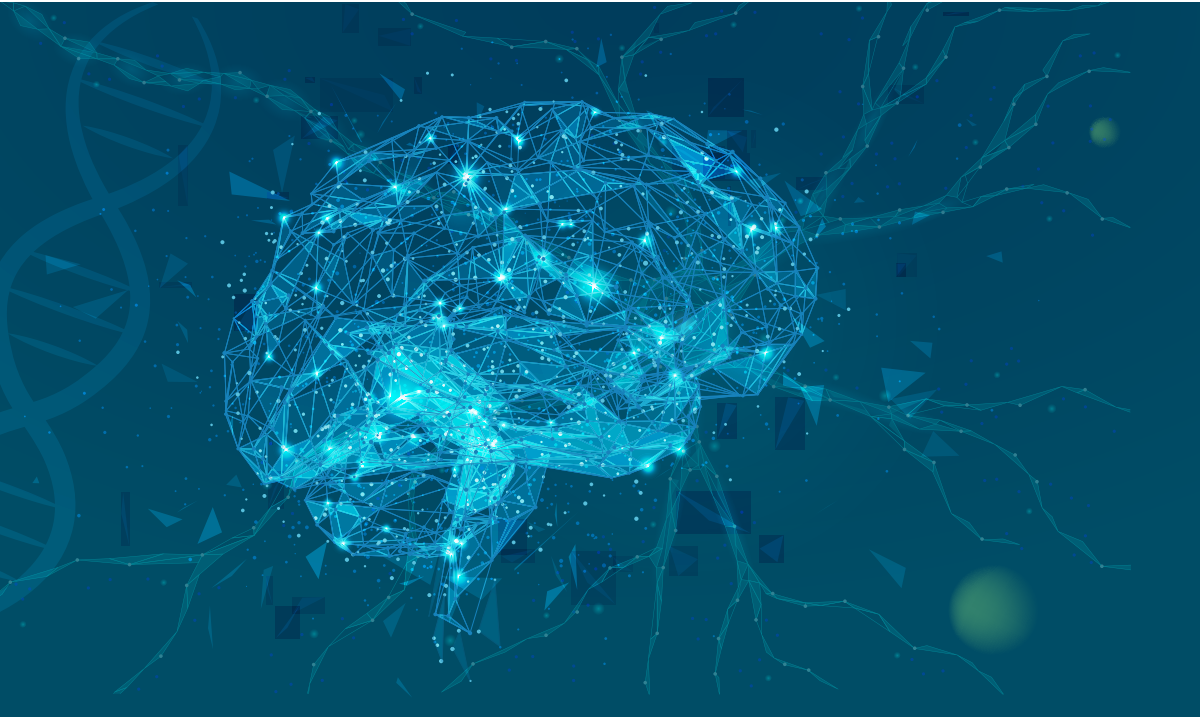


# GOBIOM Case Study



## Pharmacodynamic and Safety Biomarkers in Multiple Sclerosis

### The Purpose

To identify and explore pharmacodynamic and safety biomarkers in Multiple Sclerosis using Global Online Biomarker Platform (GOBIOM).

### About the Client



**COMPANY**  
Big Pharma



**LOCATION**  
US



**THERAPEUTIC AREA**  
CNS

### Client Requirement

The client is a large pharma based out of US focused primarily on research and development of therapeutics targeting various cancers and were keen to explore pharmacodynamic and safety biomarkers in Multiple Sclerosis (MS).

### The Excelra Approach

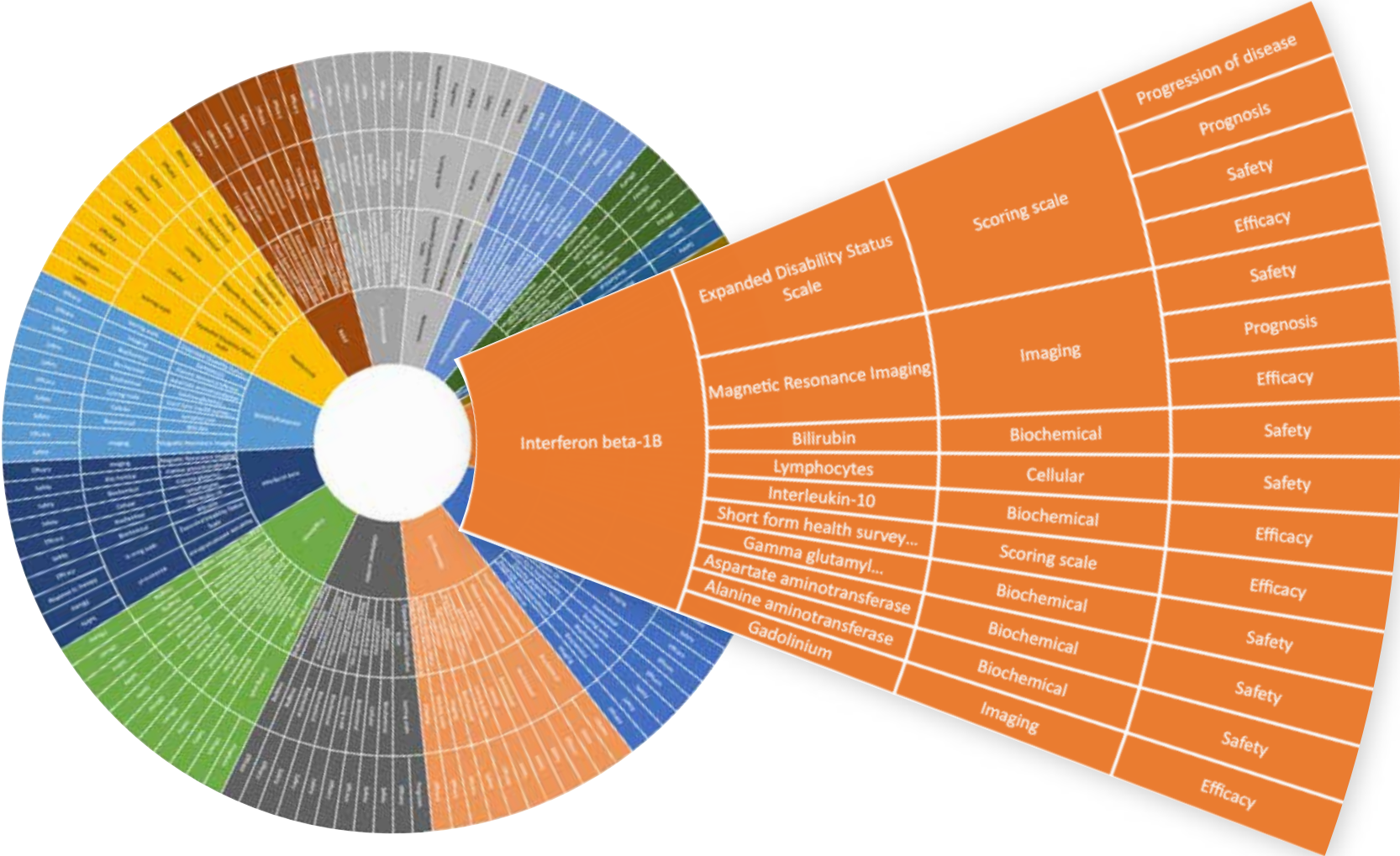
GOBIOM database was queried to identify pharmacodynamic and safety biomarker landscape for commonly administered drugs in MS. The in-house 'bubble chart platform' was used to visualize the pharmacodynamic and safety biomarkers of MS in the GOBIOM database. The commonly administered drugs in MS along with their respective biomarker natures and applications was represented as a sunburst plot.



**Figure 1:** Pharmacodynamic biomarkers for commonly administered drugs in MS



**Figure 2:** Safety biomarkers for commonly administered drugs in MS



- Interferon beta ■ Dimethylfumarate ■ Natalizumab ■ Rebif ■ Alemtuzumab ■ Betaseron ■ Methylprednisolone
- Mis416 ■ Delta-9-tetrahydrocannabinol ■ Cannabidiol ■ Interferon beta-1B ■ Interferon beta-1A ■ Teriflunomide
- Glatiramer acetate ■ Fingolimod

**Figure 3:** Sunburst plot showing drugs used for treatment of multiple sclerosis, biomarkers that are affected by drug treatment and their nature and applications

Excelra’s Contribution

**GOBIOM helped identify the most significant pharmacodynamic biomarkers in MS:** Expanded disability status scale, MRI, MS functional composite score, MS impact scale-29, Fatigue severity scale, SF-36, MFIS, Beck depression inventory, Nine-hole peg test, MS walking scale-12 and IL-10.

**GOBIOM helped identify the most significant safety biomarkers in MS:** Alanine aminotransferase, White blood cells, Aspartate aminotransferase, Gamma-glutamyl transferase, Lymphocytes, Alkaline phosphatase, Neutrophils, Creatinine, Platelets and Bilirubin.

For more information, visit <https://www.excelra.com/translational/#gobiom>



About Excelra

Excelra's data and analytics solutions empower innovation in life sciences across the value chain from discovery to market. The Excelra Edge comes from a seamless amalgamation of proprietary curated data assets, deep domain expertise and data science. The company's multifaceted teams harmonize and analyse large volumes of disparate unstructured data using cutting-edge technologies. We galvanize data-driven decisions to unlock operational efficiencies to accelerate drug discovery and development. Over the past 18 years, Excelra has been the preferred data and analytics partner to over 90 global clients, including 15 of the top 20 large Pharma.