

Your Trusted Partner in Autoimmune Disease Therapeutics Discovery and Development

Contact Us

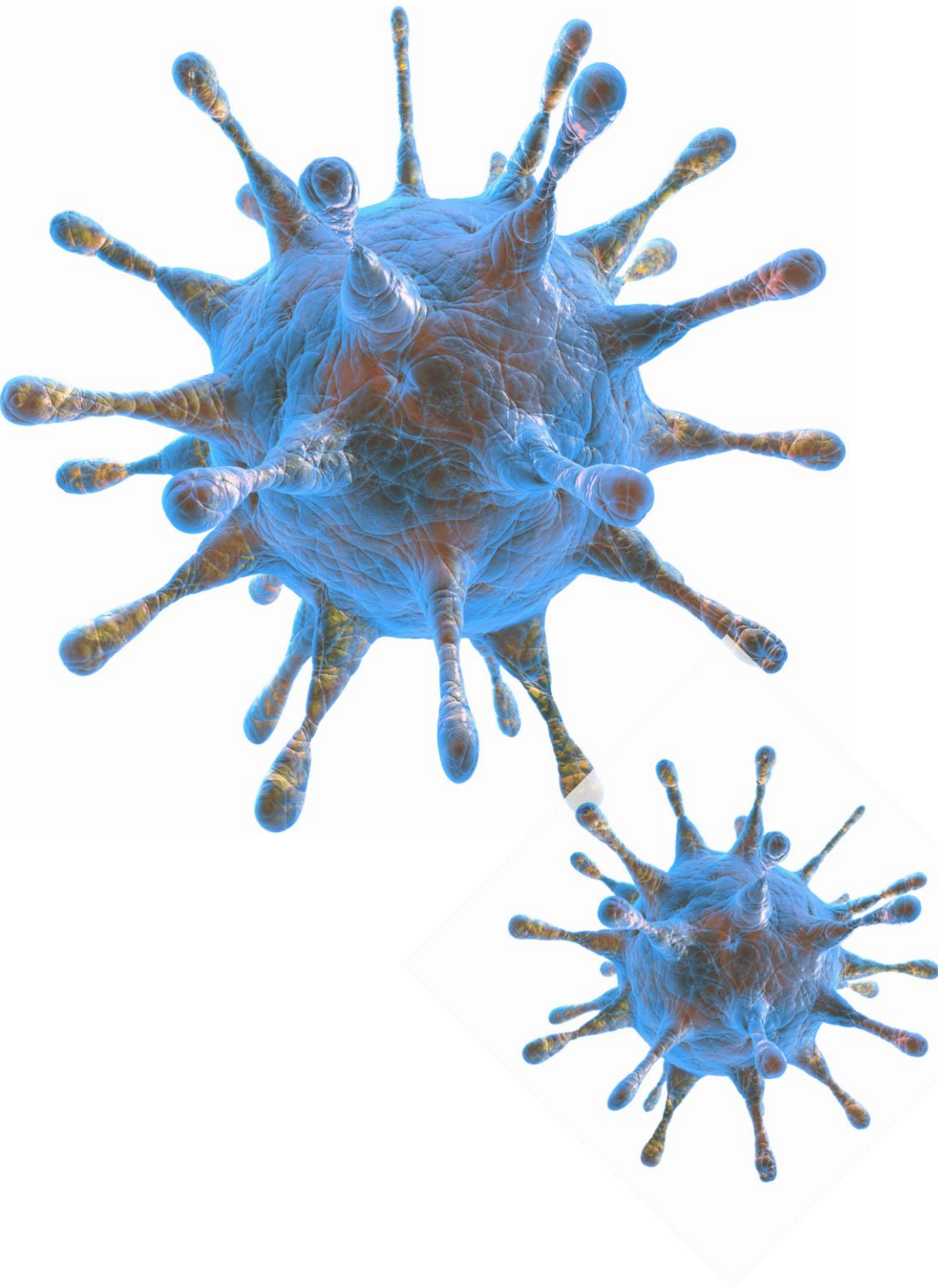
✉ info@protheragen.us

🌐 www.autoimmunetec.com

☎ 1-631-533-2057

📍 101-4 Colin Dr, Holbrook, NY 11741, USA



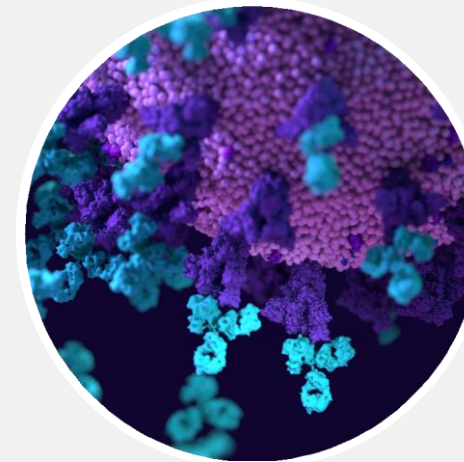


Protheragen

Protheragen is a leading, full-service solutions provider specializing in the development of drugs and therapies for autoimmune diseases. Our services include preclinical studies, investigator-initiated trials (IITs) research and clinical CRO services, ensuring comprehensive support for your projects. In addition, we offer a wide variety of human bio-specimens from both healthy individuals and patients with autoimmune diseases to support your development of drugs and therapies in the field of various autoimmune diseases.



IL-2	IL-21	TNF-R1	CD28	CD106	TLR2	MUC1
IL-4	IL-22	TNF-R2	CD30	CD123	TLR4	L1CAM
IL-5	IL-23	IFN- α	CD38	CD127	BDCA-2	NKG2D
IL-6	IL-24	IFN- β	CD40	CD132	BDCA-4	NKG2DL1
IL-7	IL-25	IFN- γ	CD44	CD134	BDCA-3	NKG2DL2
IL-9	IL-26	IFN- γ R	CD47	CD137	BDCA-1	Siglec-7
IL-10	IL-27	TGF- β	CD52	CD138	CD163L1	Siglec-9
IL-12	IL-28	TGF- β R	CD55	CD140	CXCR3	NKp46
IL-13	IL-29	CD2	CD58	CD163	CXCR6	NKp30
IL-15	IL-31	CD3	CD59	CD200	CXCR5	NKp44
IL-17	IL-32	CD4	CD62L	CD200R	CD40LG	Siglec-5
IL-17A	IL-33	CD5	CD69	CD206	ICOS-L	CD54
IL-17F	IL-34	CD7	CD70	CD209	TNFRSF13C	CD274
IL-17RA	IL-35	CD8	CD80	CD226	TNFRSF13B	CD153
IL-17RC	IL-36	CD19	CD86	CD244	CTLA-4	CD276



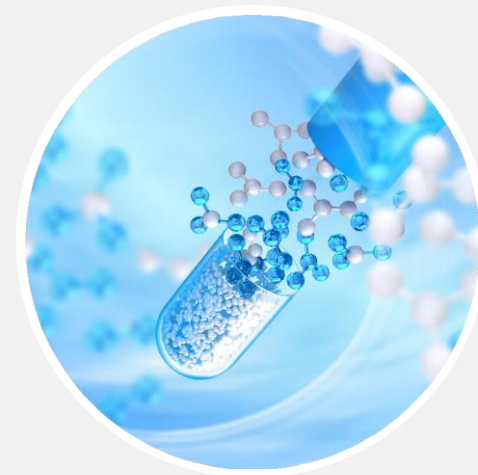
Targets

Therapeutic Area

- Cardiovascular System Diseases
- Digestive System Diseases
- Endocrine System Diseases
- Integumentary System Diseases
- Musculoskeletal System Diseases
- Nervous System Diseases
- Reproductive System Diseases
- Respiratory System Diseases
- Urinary System Diseases

Therapeutic Area

- Cardiovascular System Diseases
- Digestive System Diseases
- Endocrine System Diseases
- Integumentary System Diseases
- Musculoskeletal System Diseases
- Nervous System Diseases
- Reproductive System Diseases
- Respiratory System Diseases
- Urinary System Diseases



Services

- Diagnostic Development Services
 - Therapeutics Development Services
 - Small Molecule Drug
 - Therapeutic Antibody
 - Cell Therapy
 - Gene Therapy
 - Preclinical Studies Services
 - Drug Safety Evaluation Services
 - Pharmacokinetics Study Services
-
- Animal Model Development Services
 - Gene Engineered Animal Models
 - Chemically Induced Animal Models
 - Spontaneous Animal Models
 - Diet Induced Animal Models

• Single Cell Technology Platform

Single-Cell RNA Sequencing (scRNA-seq) Platform

By analyzing the gene expression patterns at the single-cell level, we can identify distinct cell subpopulations and their roles in disease.

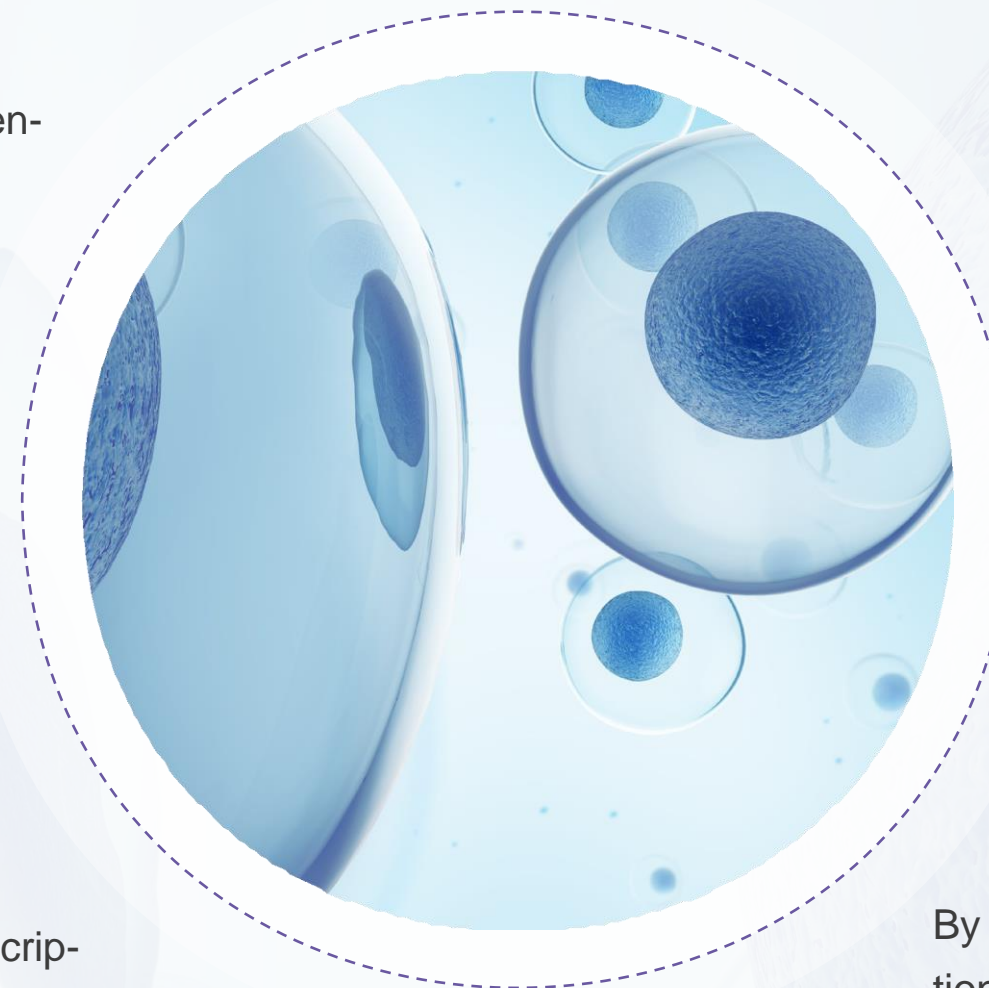
Single-Cell Immune Repertoire Sequencing Platform

By sequencing the V(D)J regions of T cell receptors (TCRs) and B cell receptors (BCRs), we can catalog the diversity of immune cells and their specific antigen recognition profiles.

Single-Cell Sequencing Assay for Transposase-Accessible Chromatin (scATAC-seq) Platform

By identifying open chromatin regions, we can map the binding sites of transcription factors and other regulatory elements, offering a comprehensive view of the gene regulatory networks that drive disease pathogenesis.

Cell Therapy



• Cell Therapy Development

Stem Cell Therapy Development

We have successfully utilized mesenchymal stem cells (MSCs) to modulate immune responses and promote tissue regeneration in conditions like systemic sclerosis.

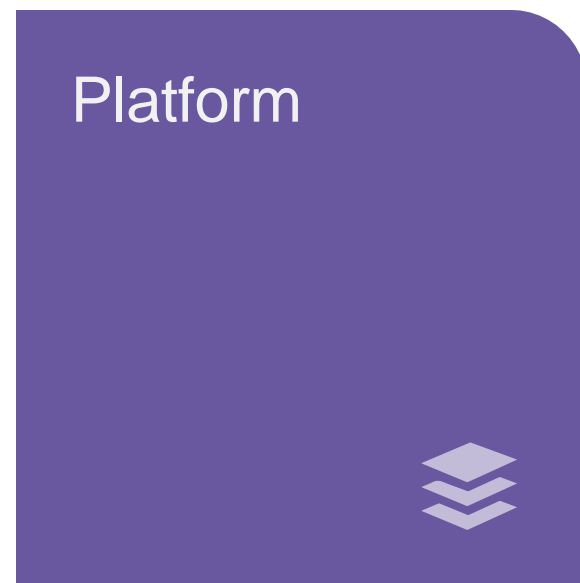
Immune Cell Therapy Development

We employ techniques such as adoptive T cell transfer, where patient-derived T cells are expanded and re-infused to enhance immune surveillance and combat disease.

CAR-T Cell Therapy Development

By identifying open chromatin regions, we can map the binding sites of transcription factors and other regulatory elements, offering a comprehensive view of the gene regulatory networks that drive disease pathogenesis.

T Cell Receptor-Gene Engineered T Cell Therapy Development



Animal Model Development Services

As a research services provider, **Protheragen** offers services for the development of over 100 disease models, including rheumatoid arthritis, systemic lupus erythematosus, psoriasis, multiple sclerosis *etc.* Our comprehensive approach includes the development of various animal models that mimic human autoimmune diseases, providing a range of services from model conception to validation.

Rheumatoid Arthritis (RA)

Models

- Collagen induced CIA model in DBA/1 mice
- Collagen induced CIA model in Lewis rats

Systemic Lupus Erythematosus (SLE)

Models

- Pristane induced SLE model in C57BL/6 mice
- TLR-7 Agonists induced SLE model in C57BL/6 mice

Psoriasis (Pso)

Models

- IMQ induced psoriasis model in C57BL/6 mice
- IL-23 induced psoriasis model in C57BL/6 mice

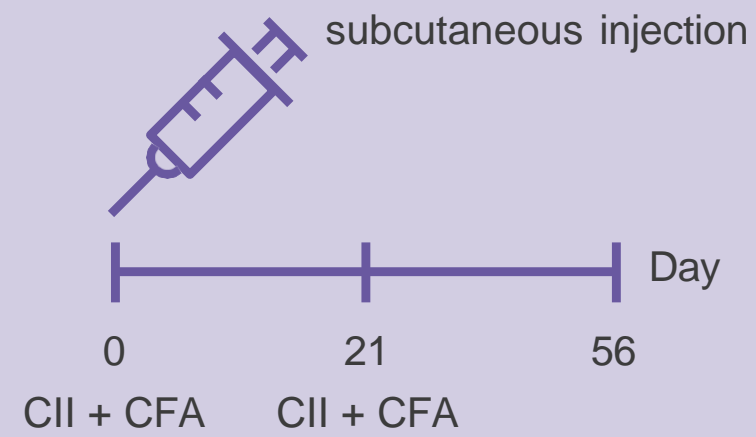
Multiple Sclerosis (MS)

Models

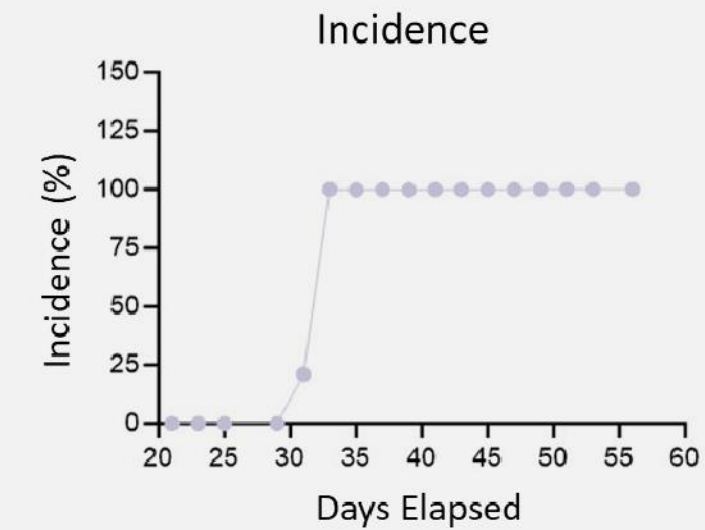
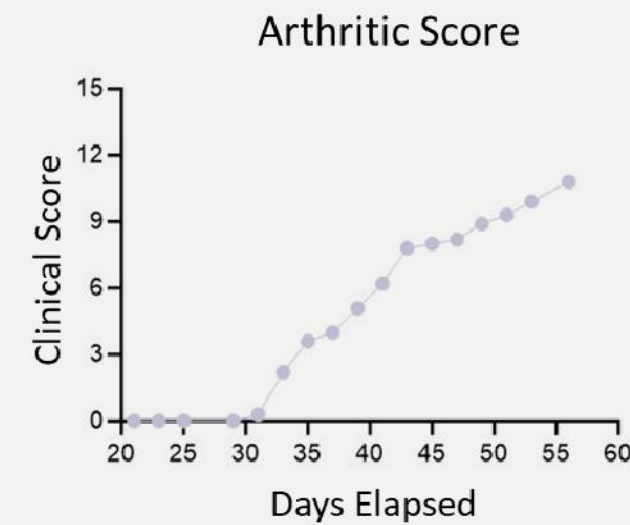
- PLP induced EAE model in SJL mice
- MBP induced EAE model in Lewis rats

Experimental Design

DBA/1, Male,
8-10 weeks



Experimental Data



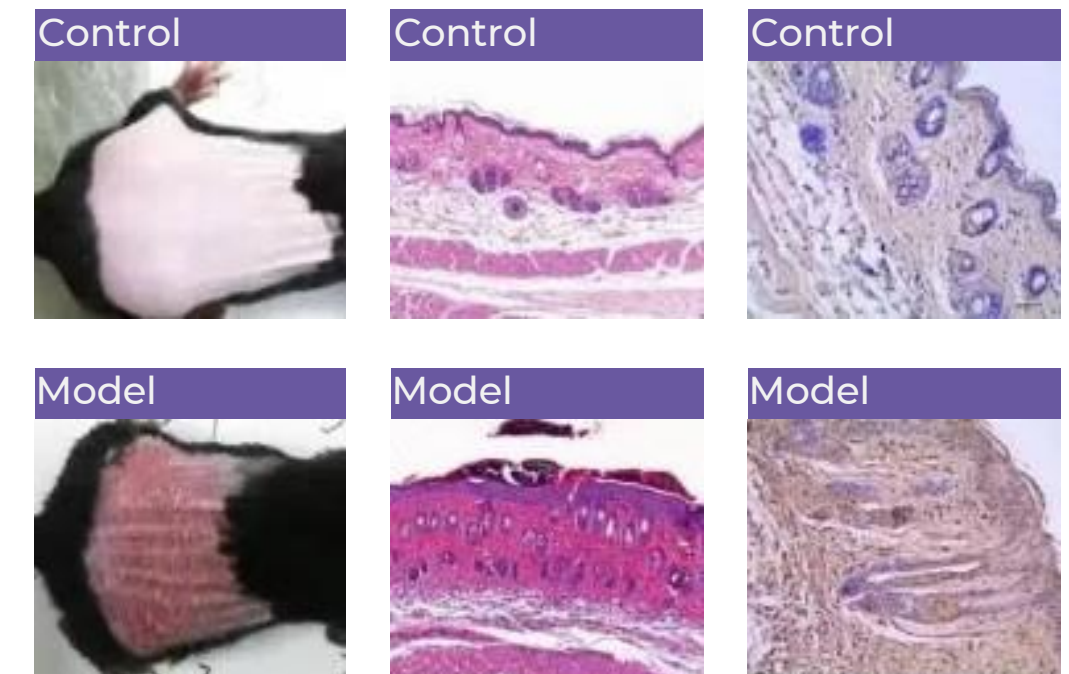
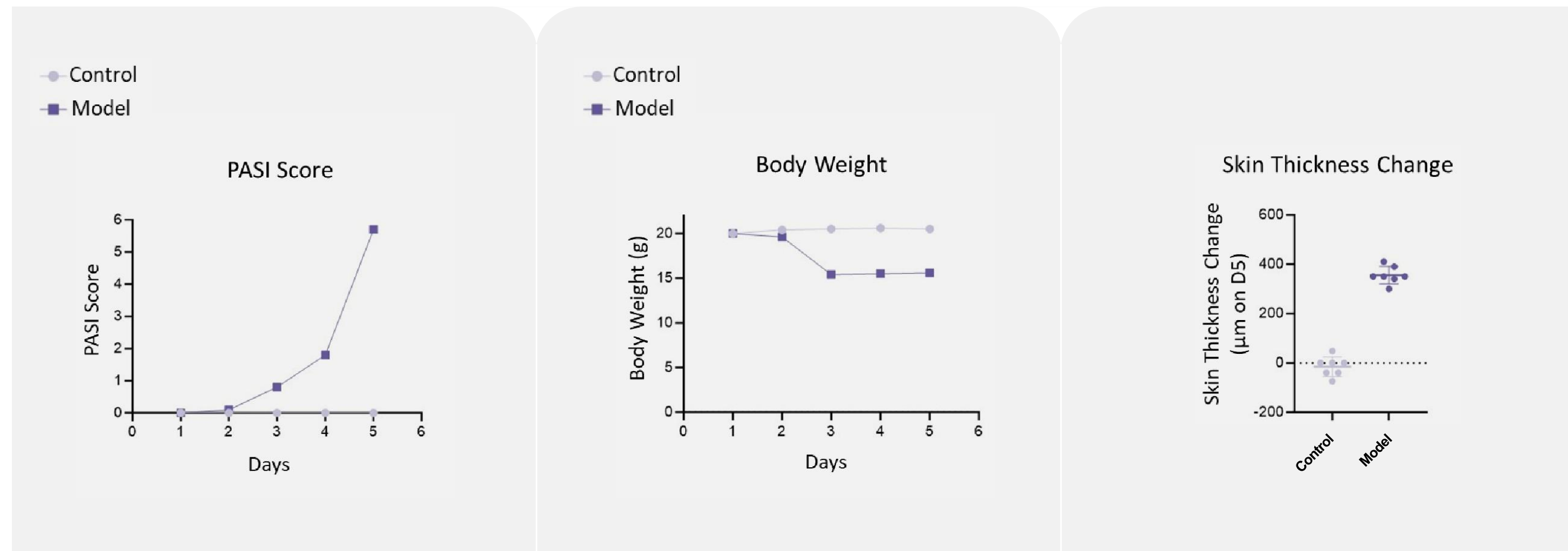
Score Sheet

Score	Observation
0	Normal state, no significant difference in appearance from healthy mice
1	Erythema and mild swelling limited to the tarsal bones, ankle joints or claw joints, mild swelling of one limb
2	Erythema and mild swelling extending from the ankle to the tarsal bones or erythema and mild swelling exceeding one toe
3	Redness and moderate swelling from the ankle to the metatarsal joints or the entire sole of the foot, with obvious redness
4	Erythema and severe swelling of the entire claw in the ankle joint, foot and digits, or ankylosing of the limbs

Experimental Design

Imiquimod (IMQ) is an inhibitor of Toll-like receptor 7/8 and is clinically used to treat viral infections. We applied IMQ cream on the back of mice for 5 to 7 consecutive days, and psoriasis-like symptoms such as skin thickening, erythema, and scaling appeared.

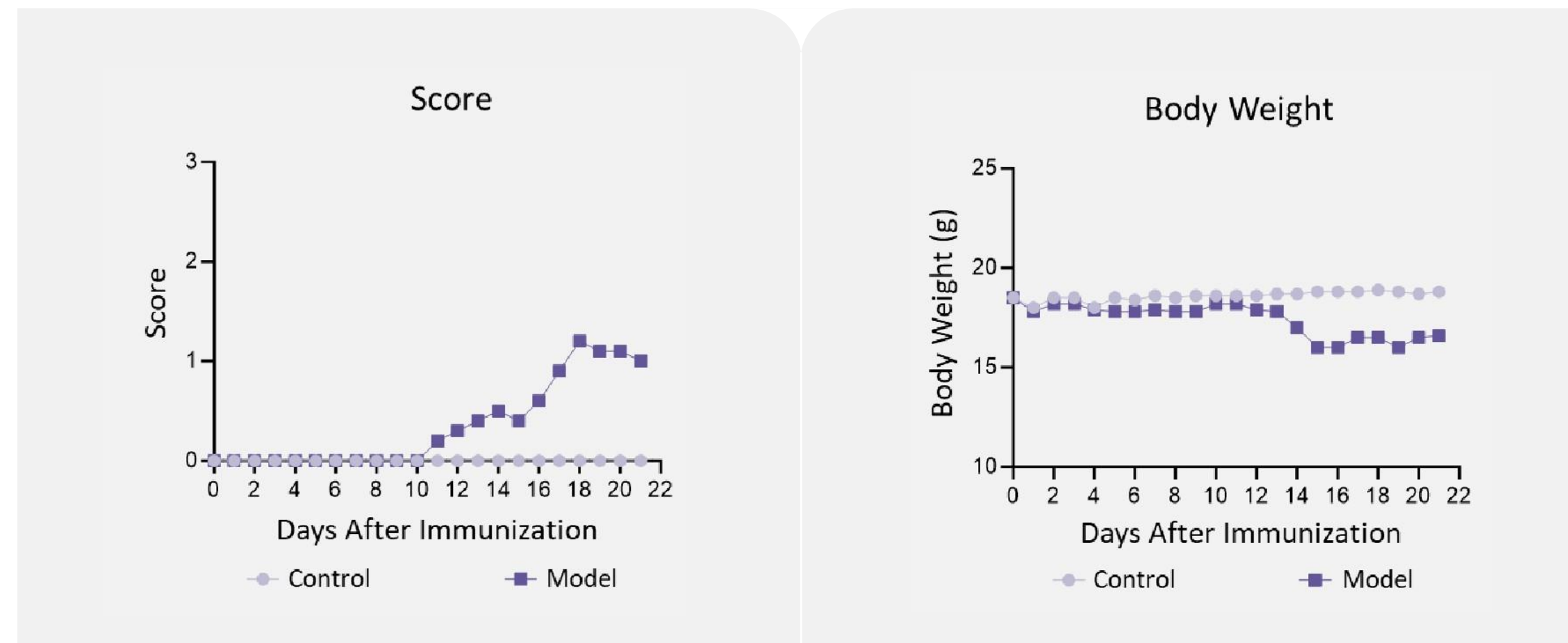
Experimental Data



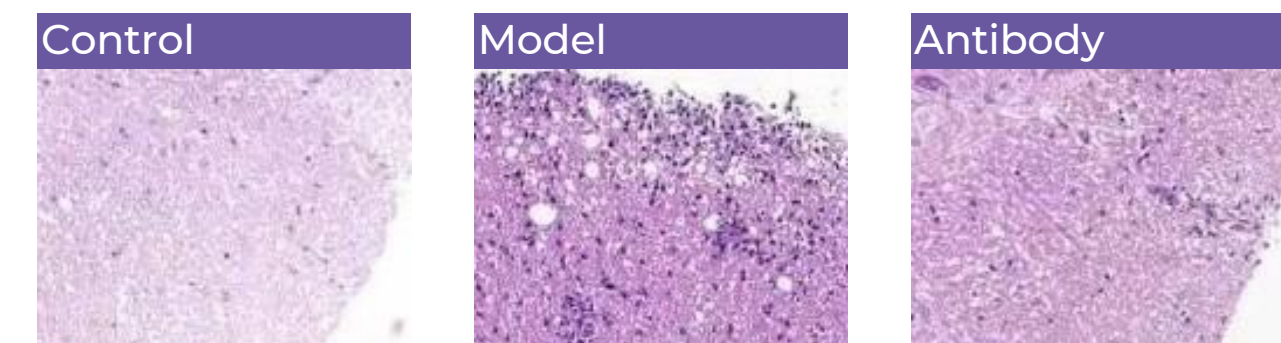
Experimental Design

In C57BL/6 mice, the antigen peptide MOG35-55 was emulsified with complete Freund's adjuvant (CFA) and injected subcutaneously to induce an immune response in mice. Pertussis toxin (PTX) was injected intraperitoneally twice, 2 hours and 48 hours after MOG injection, to increase the permeability of the blood-brain barrier and thus establish the experimental autoimmune encephalomyelitis (EAE) model.

Experimental Data



Spinal Cord



Brain





Platform



Protheragen's non-human primate platform represents a cutting-edge solution for the development of therapies targeting autoimmune diseases. By offering customized model development, comprehensive preclinical testing services, and leveraging the unique advantages of NHP models, we empower researchers and pharmaceutical companies to advance their autoimmune disease drug development.

Indication	Animal Model
Psoriasis (Pso)	·IMO induced Pso model in NHP
Atopic Dermatitis (AD)	·DNCB induced AD model in NHP
Alopecia Areata (AA)	·IMQ induced pruritus model in NHP
Systemic Sclerosis (SSc)	·BLM induced SSc model in NHP
Pruritus	·Mechanical damage induced pruritus model in NHP
Rheumatoid Arthritis (RA)	·Collagen induced RA model in NHP
Sjogren's Syndrome (SjS)	·Salivary gland protein induced SjS model in NHP
Systemic Lupus Erythematosus (SLE)	·TLR-7 agonist induced SLE model in NHP ·Pristane induced SLE model in NHP
Uveitis (EAU)	·IRBP induced EAU model in NHP ·LPS induced EAU model in NHP
Inflammatory Bowel Disease (IBD)	·DSS induced IBD model in NHP
Asthma	·OVA induced asthma model in NHP
Idiopathic Pulmonary Fibrosis (IPF)	·BLM induced IPF model in NHP
Xerophthalmia	·Scopolamine induced Xerophthalmia model in NHP
Myasthenia Gravis (MG)	·AchR induced MG model in NHP
Ankylosing Spondylitis (AS)	·Collagen induced AS model in NHP

Human Biospecimens

Protheragen offers a comprehensive human biospecimen products with a vast network of collection sites, ensuring diverse sample access and ethical compliance, while also providing customized solutions to meet specific research needs.

Product Features

Diverse Collection Sites

We have forged a robust network of collection sites, allowing us to respond quickly and efficiently to every client's needs.

Ethical Sourcing

We are committed to ethical sourcing practices, ensuring that the acquisition of all samples aligns with relevant ethical standards and regulations, where applicable, with due respect for the privacy and dignity of donors.

Large Inventory Accumulation

Over time, we have meticulously curated a substantial inventory akin, encompassing a vast array of sample types.

Customized Product Solutions

In addition to standard products, we also provide tailored product solutions to precisely align with your individual requirements.



Whole Blood



Swab Samples



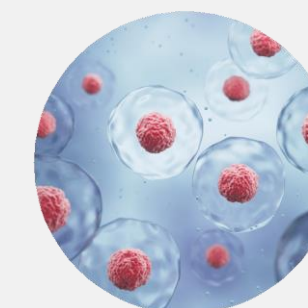
Stool Samples



FFPE Tissue



Sputum Samples



PBMCs



BMMCs



Leukopaks

One-stop Investigator Initiated Trial (IIT) Services

Compliance Approval



The initial phase involves obtaining regulatory approvals to ensure that all research activities are conducted in accordance with ethical standards and legal requirements. This step is critical for safeguarding the rights and welfare of study participants.

Recruitment and Screening



The screening process is rigorous, focusing on factors such as nationality, occupation, residence, and health status to ensure a study population that is representative and relevant to the research objectives.

Data Collection



In collaboration with hospitals and medical centers, Protheragen facilitates the collection of clinical data. This phase is executed with precision, utilizing state-of-the-art equipment and protocols to gather high-quality data that can withstand scientific scrutiny.

Quality Control



Throughout the trial, Protheragen implements a series of quality control measures. These include regular audits, data monitoring, and interim analyses to ensure that the study remains on track and adheres to the highest scientific standards.

Service Delivery



Finally, Protheragen ensures that research results can be delivered in a timely manner, utilizing secure and efficient data transfer methods to safeguard the integrity and confidentiality of the research data.

Optional Clinical Research Services

- Investigator Initiated Trial (IIT) Services
- Medical Writing Services
- IND/NDA/BLA Application Strategy Services
- Patient Recruitment Services
- Biostatistics and Programming Services
- Quality Management Services
- Medical Monitoring Services
- Safety & Pharmacovigilance Services
- Data Management Services
- Project Management Services

Looking Forward to Receiving Your Inquiry!

Contact Us

✉ info@protheragen.us

🌐 www.autoimmunetec.com

☎ 1-631-533-2057

📍 101-4 Colin Dr, Holbrook, NY 11741, USA

