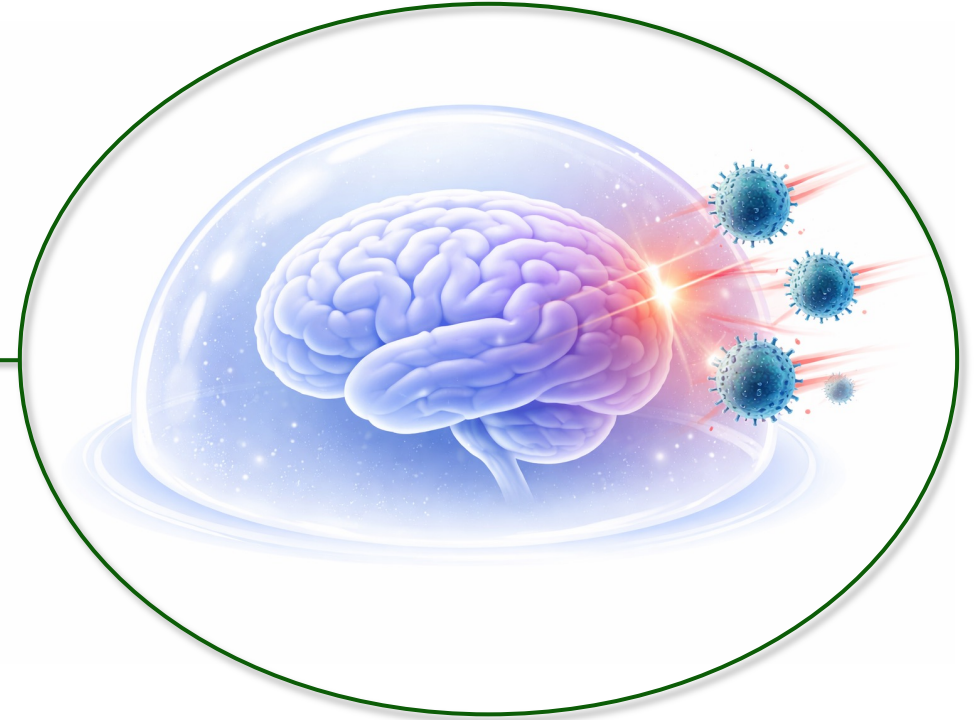


Toleris

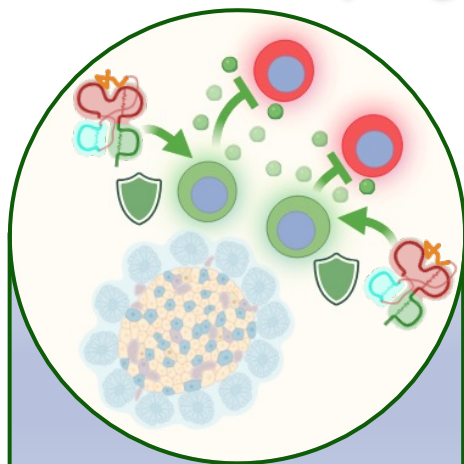
Biotherapeutics GmbH

First-in-class precision therapeutics
for organ-specific immune tolerance



Disruptive science, defined Leads and a clear path to value creation Toleris

Versatile discovery engine



- Unique HLA-G-derived platform for precision tolerance induction for autoimmune diseases (AID)
- Broad applicability across multiple AID

Experienced team



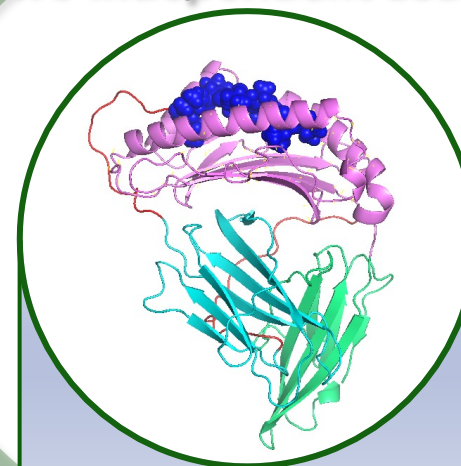
- Internationally renowned scientific founders and advisors
- Entrepreneurial and Biotech-experience

Committed investors



- Term sheet signed by blue-chip biotech VCs
- Lead investor: Corporate VC

Two independent Leads



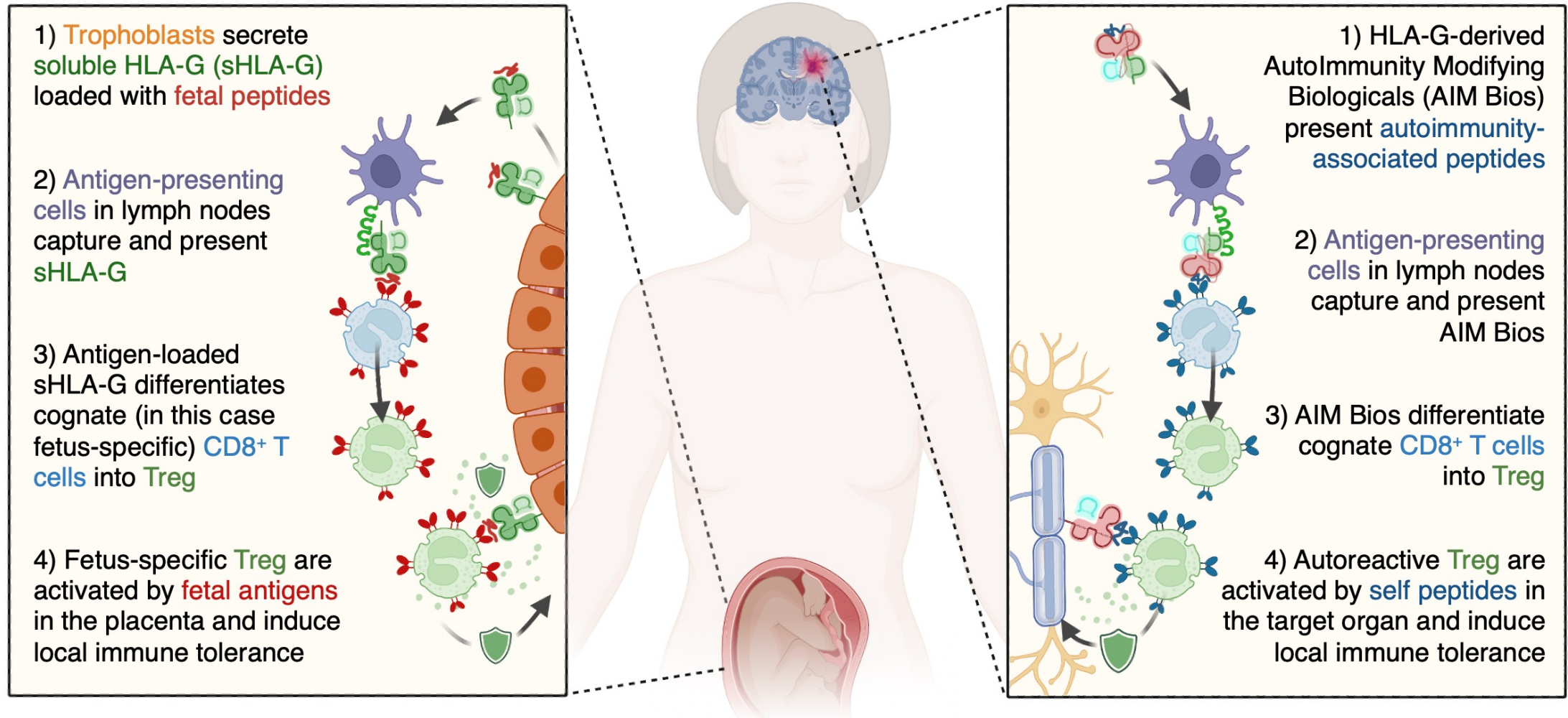
- TOL101 (Lead for multiple sclerosis and MOGAD*)
- TOL301 (Lead for Parkinson's disease)

**Myelin Oligodendrocyte Glycoprotein Antibody-associated Disease*

Leveraging HLA-G biology to induce organ-specific immune tolerance Toleris

➤ Our discovery: tolerance induction in pregnancy...

...enables organ-specific tolerance induction in AID



Why CD8⁺ Treg are well suited to treat autoimmune diseases

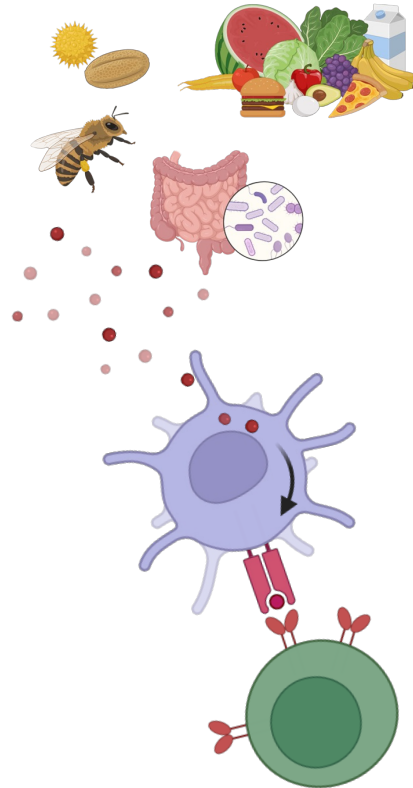
CD4⁺ Treg

recognize **extracellular**

MHC class II* antigens from:

- **food**
- **allergens**
- **pathogens**
- **destroyed cells**

transiently presented by
professional antigen-presenting
cells (APCs) in lymph nodes.



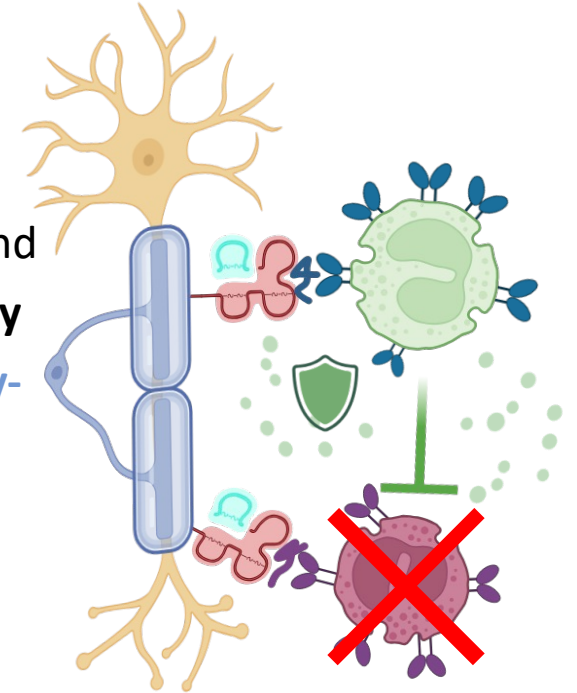
- *CD4⁺ tolerization effective in allergies¹, persistence and efficacy² problematic in autoimmunity*

CD8⁺ Treg

recognize **intracellular**

MHC class I antigens

that drive autoimmunity and
are directly and consistently
presented in **autoimmunity-**
affected organs.



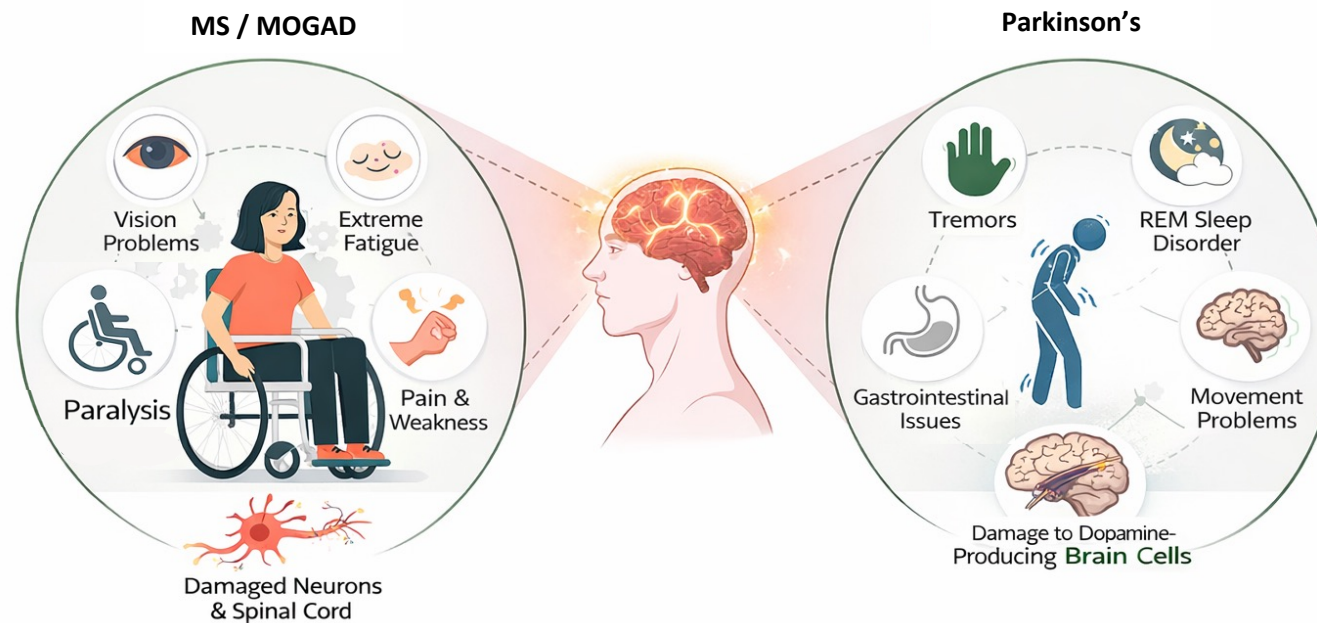
- *Shield tissues and deplete autoreactive immune cells³, contribute to regeneration⁴*

**text color matches respective molecule color*

References (PMIDs): 1) [20148422](#), [26509663](#), [18993084](#); 2) [19633673](#), [39226901](#), [32311015](#); 3) [20844537](#), [28445940](#), [39559361](#); 4) [19841178](#), [30915372](#)

Our aim: to stop the underlying cause of neuroinflammation

- Up to 10% of the population suffers from autoimmune diseases¹
- Autoimmune processes now recognized to drive Parkinson's, dementia, depression and many other diseases²
- Currently available immunosuppressants treat symptoms, but often do not stop progression and cause side effects³
- Toleris focuses on high-need commercially attractive neuroinflammatory indications with clearly identified target cells and tissues such as MS/MOGAD and Parkinson's disease



References (PMIDs): 1) [37156255](#), 2) [28636593](#), [32313102](#), [39050125](#), [39889830](#), [28725222](#); 3) [39362875](#), [34671868](#)

MOGAD and MS: fast development path and attractive market

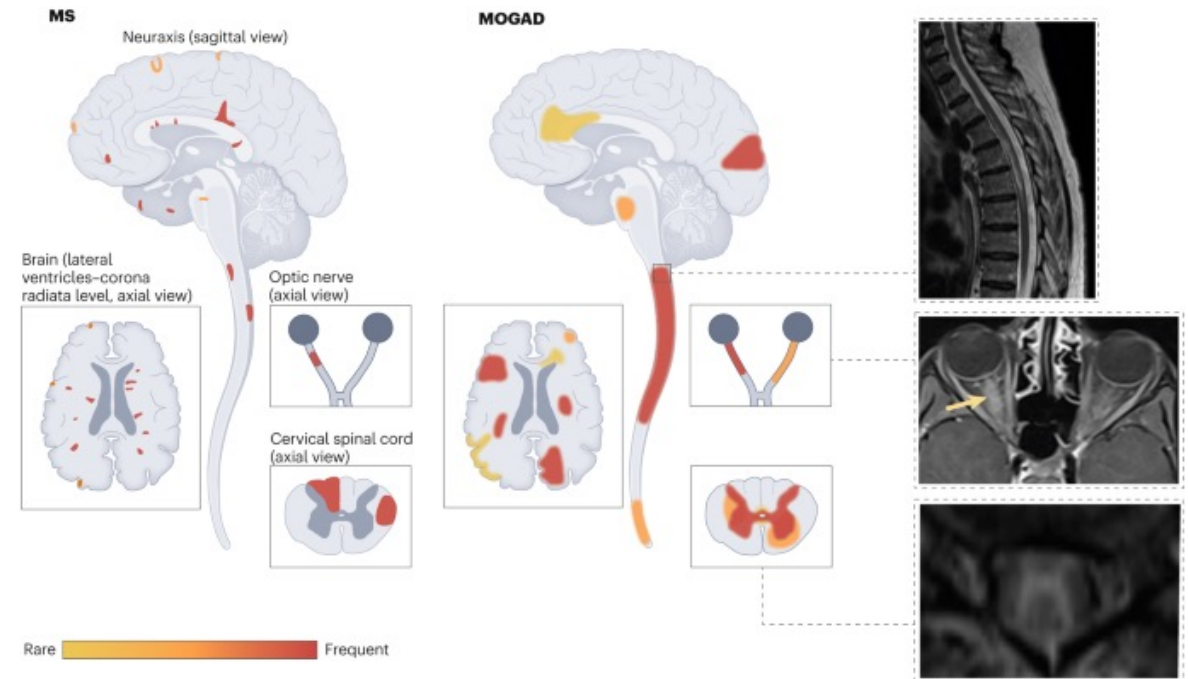
MOGAD

- Targeted cells: oligodendrocytes
- No approved therapies
- Pharma studies target relapsed, but not 1st line patients
- Orphan indication → special incentives by FDA and EMA
- Regulator-supported lean preclinical development path
- Standardized diagnostic criteria only since 2023
- TOL101 Serviceable Obtainable Market ≈ \$1.4B per year
(EU4+UK;US;CA;JP;AU ≈ 31k, 45.5% HLA-A2+, 50% accessible, \$200k /pt/yr)

Multiple Sclerosis

- Targeted cells: oligodendrocytes
- Approved therapeutics do not completely prevent disease progression and cause severe side effects
- 2035 market estimate ~ \$45B
- TOL101 Serviceable Obtainable Market ≈ \$35B per year
(EU4+UK;US;CA;JP;AU ≈ 1.75M, 45.5% HLA-A2+, 30% accessible, \$150k /pt/yr)

lesion topography in multiple sclerosis and MOGAD

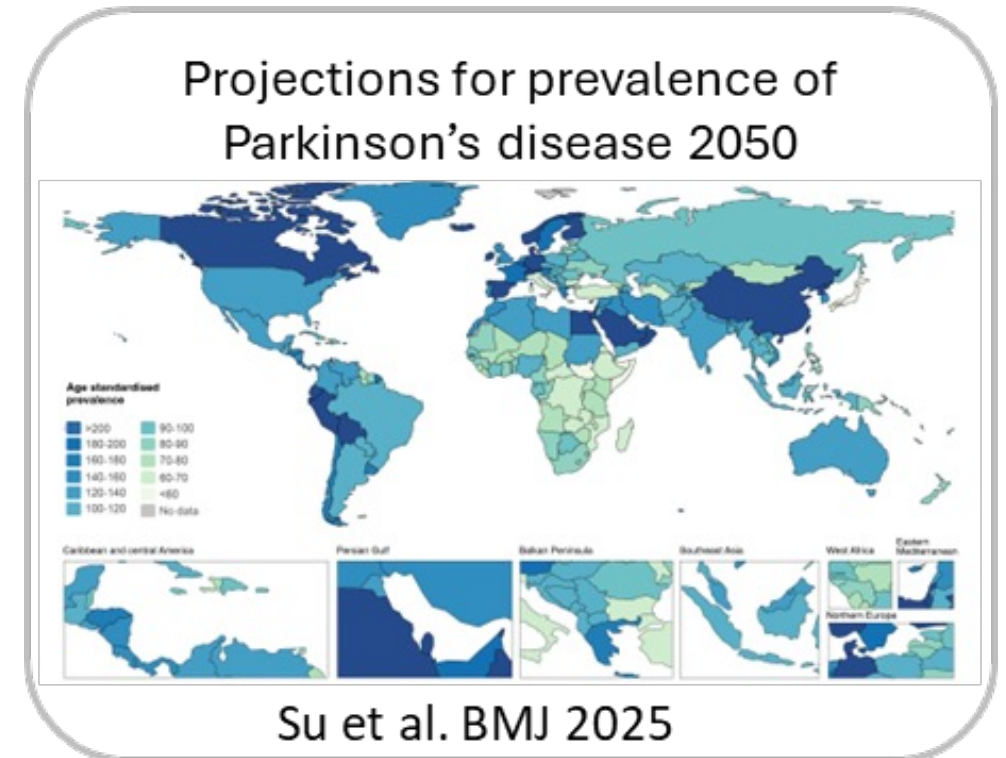


Geraldes, R. et al.,
Nat Rev Neurol 20, 620–635 (2024)

Parkinson's disease: a debilitating AID with high-medical-need

Parkinson's Disease

- Autoimmune contribution to PD only recently recognized by the scientific community
- Only symptomatic treatments approved, no prevention of continued neuronal loss
- AIM Bios completely prevent substantia nigra neuron and terminal loss and motor deficits in animal models driven by mutated α -Synuclein (aSyn)
- AIM Bios induce aSyn-specific Treg that persist at least 8 months after the last injection in mice
- Development candidates prioritized for patients with two different common HLA-As
- TOL301 Serviceable Obtainable Market $\approx$ \$85B per year
(EU4+UK;US;CA;JP;AU $\approx$ 2.5M, 45.5% HLA-A2+, 50% accessible, \$150k /pt/yr)

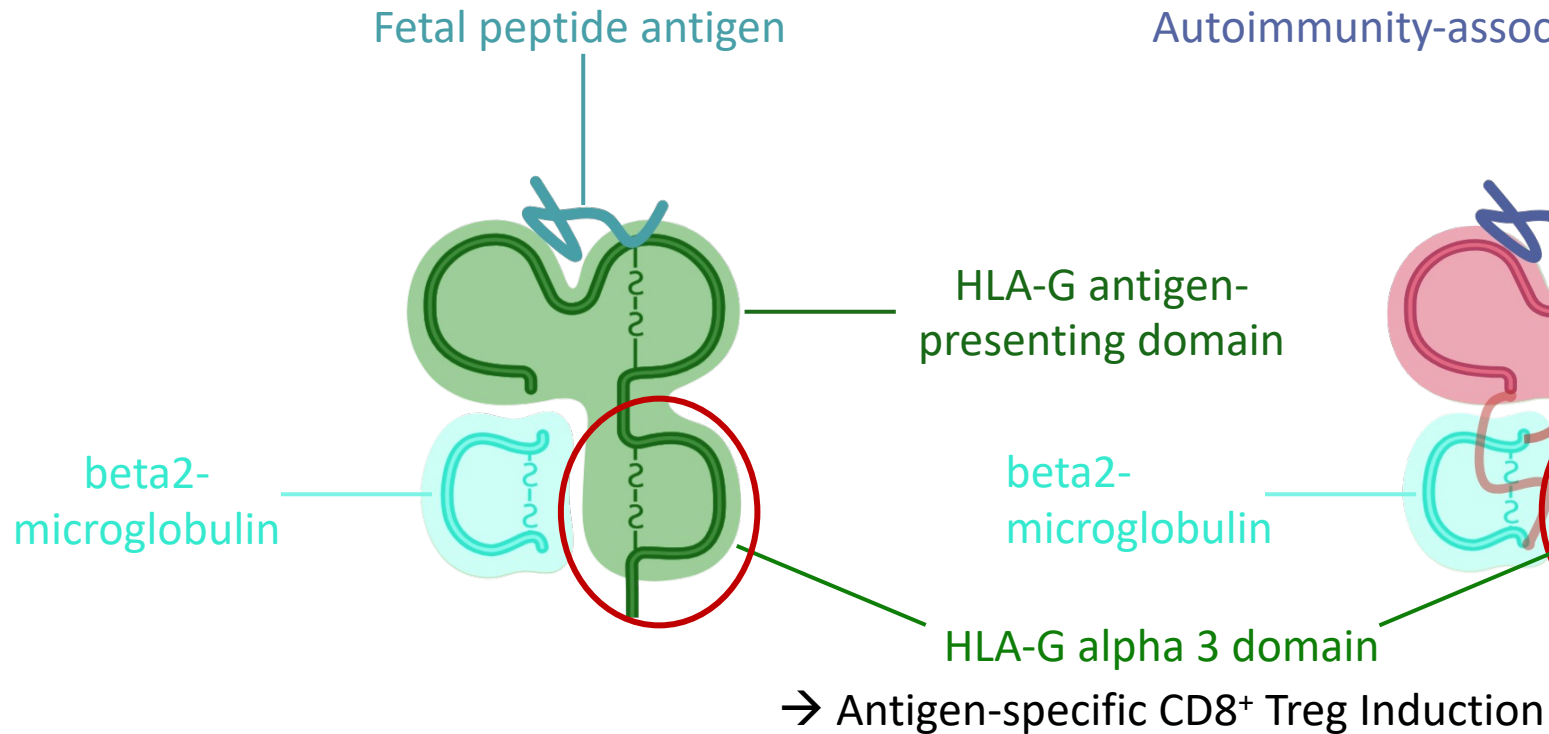


References (PMIDs): [28636593](#), [41815271](#), [40940662](#)

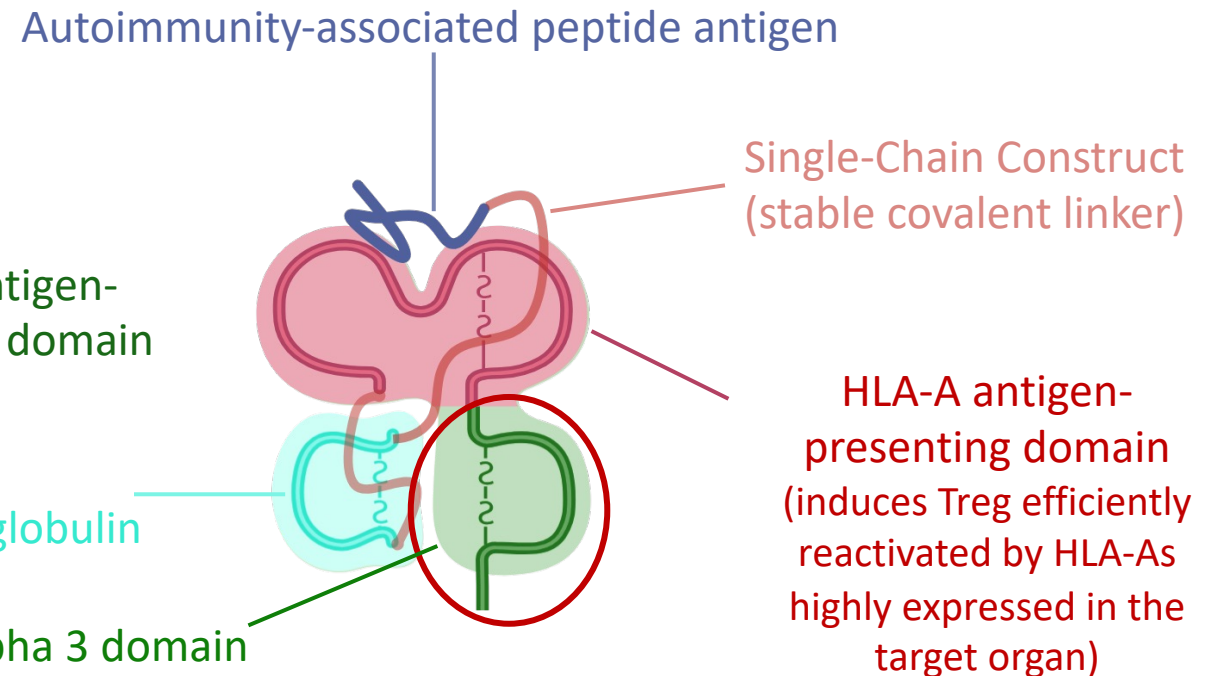
AIM Bios: engineered for therapeutic precision tolerance induction



HLA-G

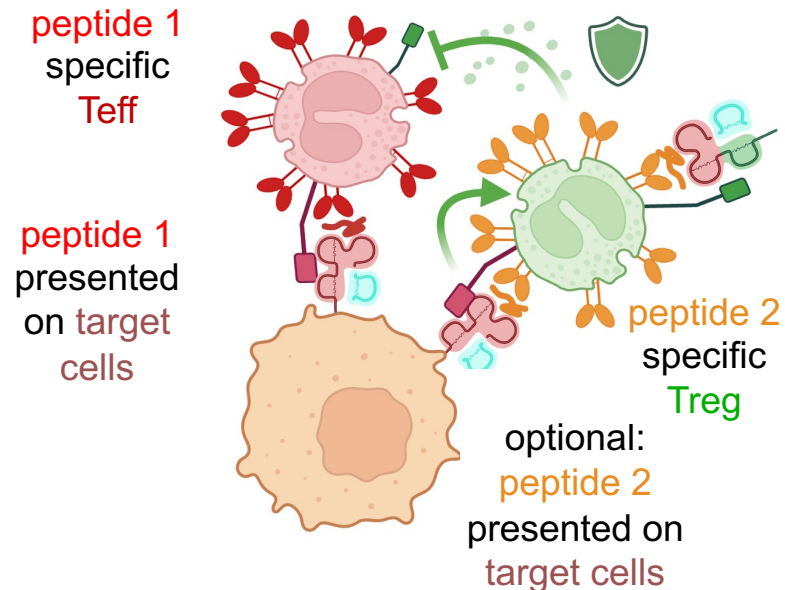


Autoimmunity Modifying Biologicals: AIM Bios

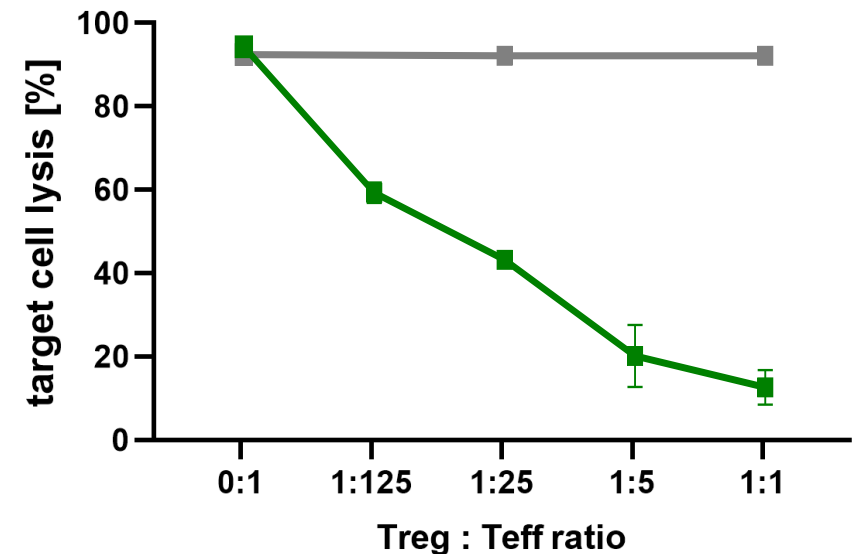


AIM Bios induce organ-specific tolerance to multiple autoantigens Toleris

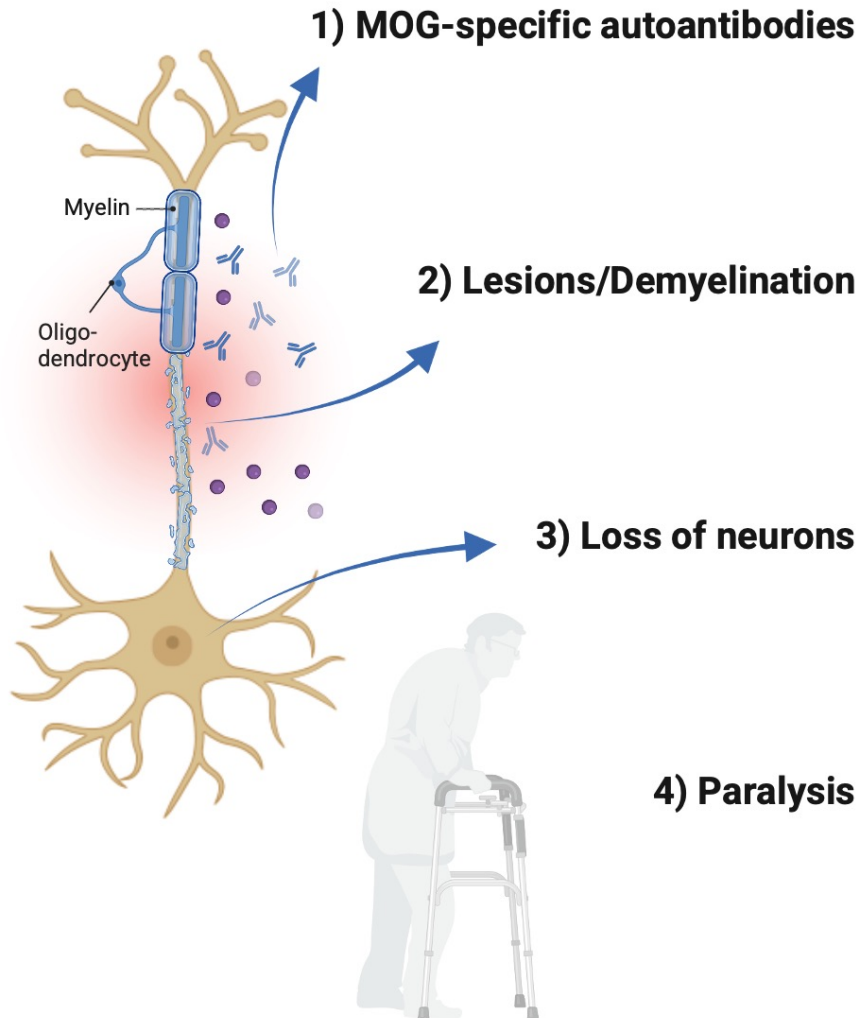
- AID are driven by multiple autoantigens requiring a broadly tolerizing approach beyond single autoantigens.
- AIM Bios induce single autoantigen-specific **CD8⁺ Treg** (example: peptide 2).
- AIM Bio-induced CD8⁺ Treg inhibit also effector T cells (**Teff**) that target other autoantigens in the target organ (example: peptide 1), even at low Treg:Teff ratios.
- **“Bystander” tolerization strictly requires the antigen** recognized by the CD8⁺ Treg TCR to be present.



Teff	Treg	peptides on targets
■ peptide 1	■ peptide 2	peptide 1
■ peptide 1	■ peptide 2	peptide 1 + peptide 2

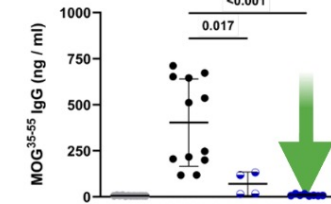


MOGAD core symptoms

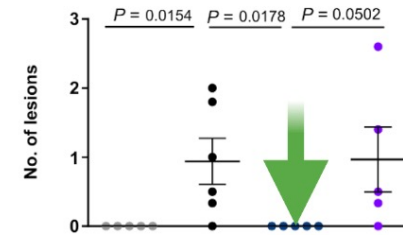


Effects of AIM Bios in three animal models

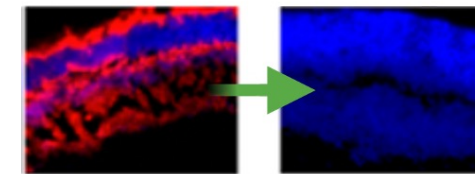
-> complete and selective prevention of MOG-autoantibodies



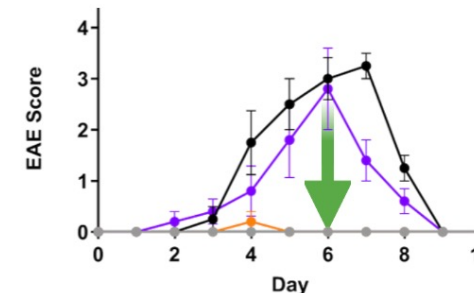
-> complete prevention of lesions



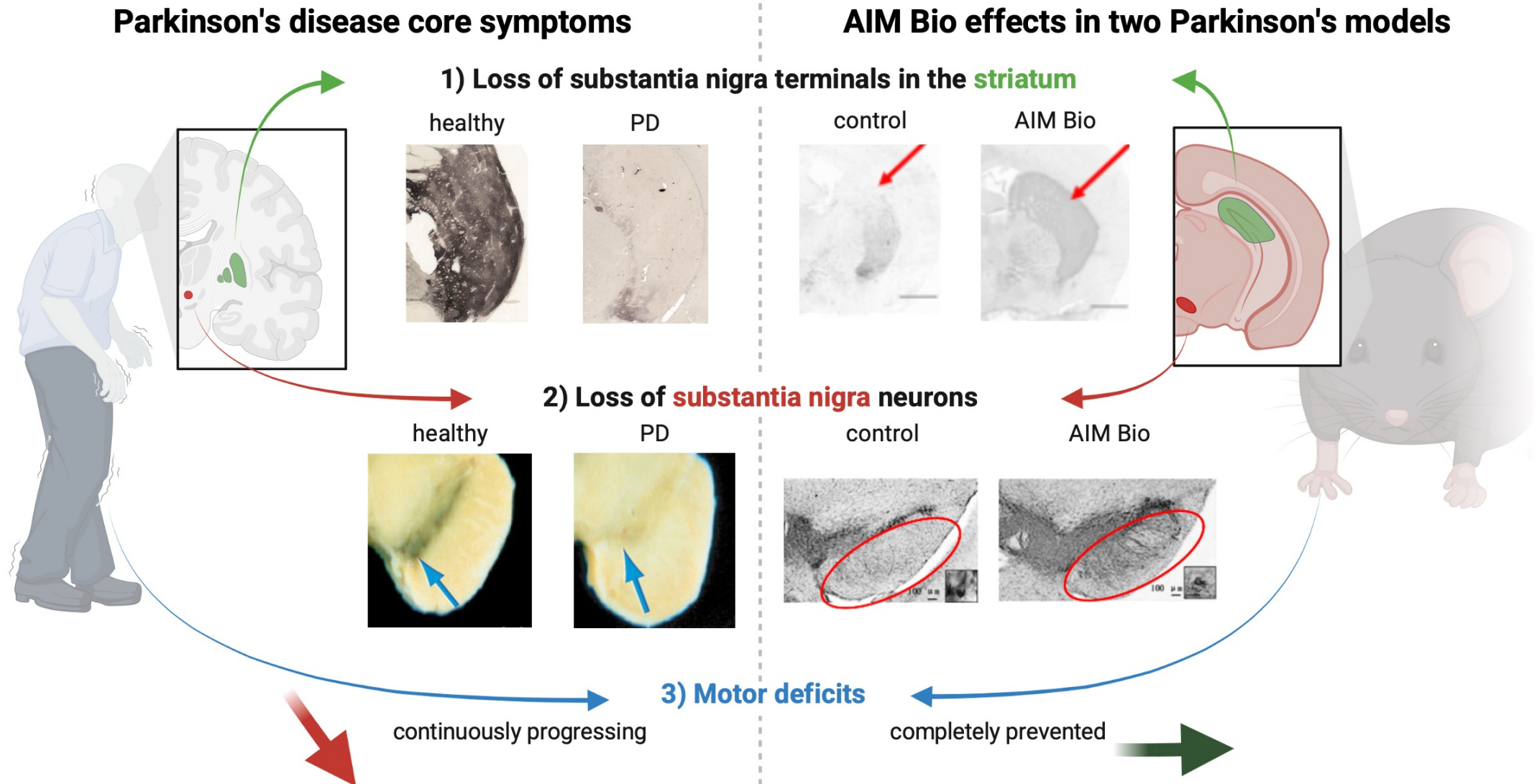
-> complete prevention of neuron loss



-> complete prevention of paralysis



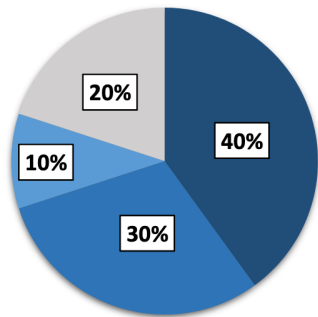
Potency proven in two relevant Parkinson's disease animal models



Lead TOL101 induces antigen-specific CD8⁺ Tregs in patient PBMCs

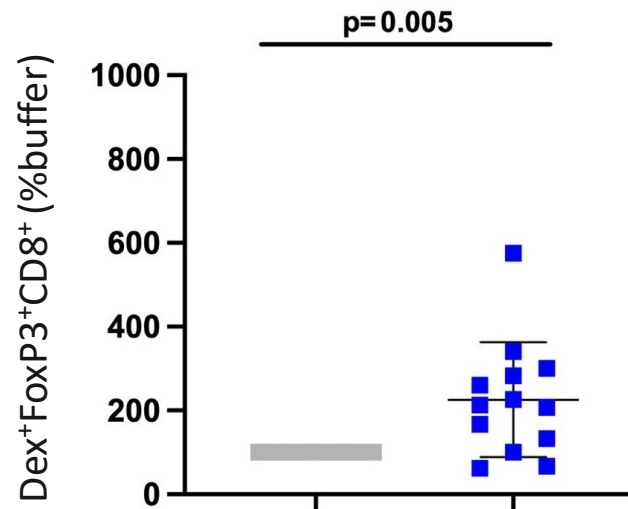
- lead TOL101 prioritized from 30 candidates, manufacturable, stable & effective in healthy donor, primary MS and MOGAD patient PBMCs

PBMC of 70-80% of 43 healthy HLA-A2⁺ donors respond to TOL101

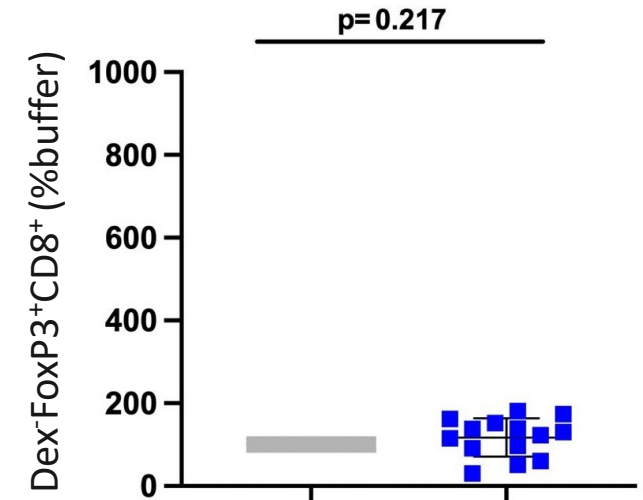


- Strong response (>100% increase in IL-10 spots)
- Moderate response (30-100% increase in IL-10 spots)
- Weak response (0-30% increase in IL-10 spots)
- No response (decrease in IL-10 spots)

TOL101 induces cognate CD8⁺ Treg in patient PBMCs

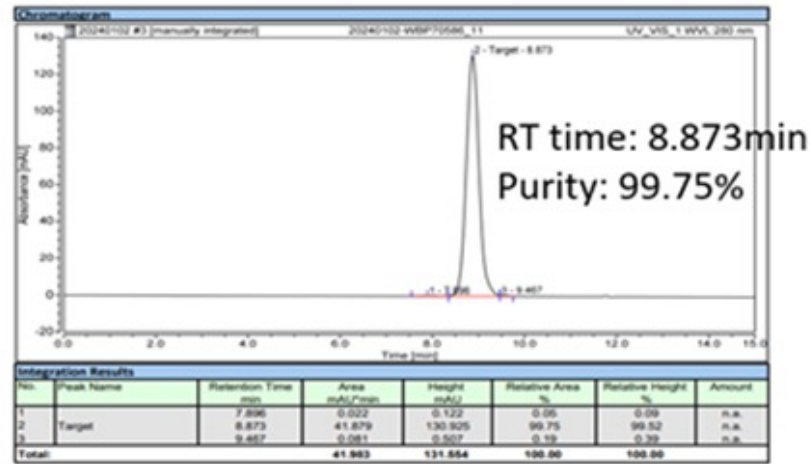


No induction of unrelated CD8⁺ Tregs by TOL101

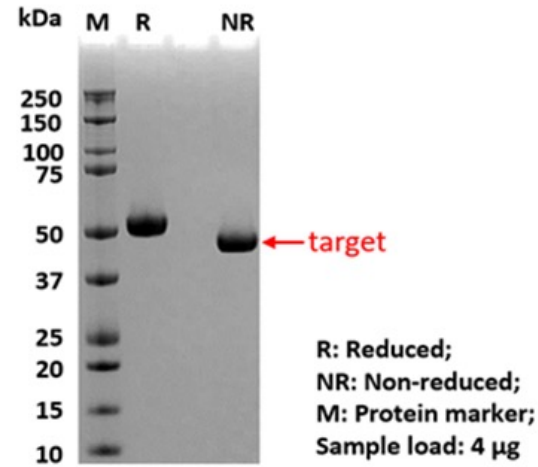


Manufacturability validated at two independent CDMOs

SEC - HPLC



SDS-PAGE



WuXi Biologics
Global Solution Provider

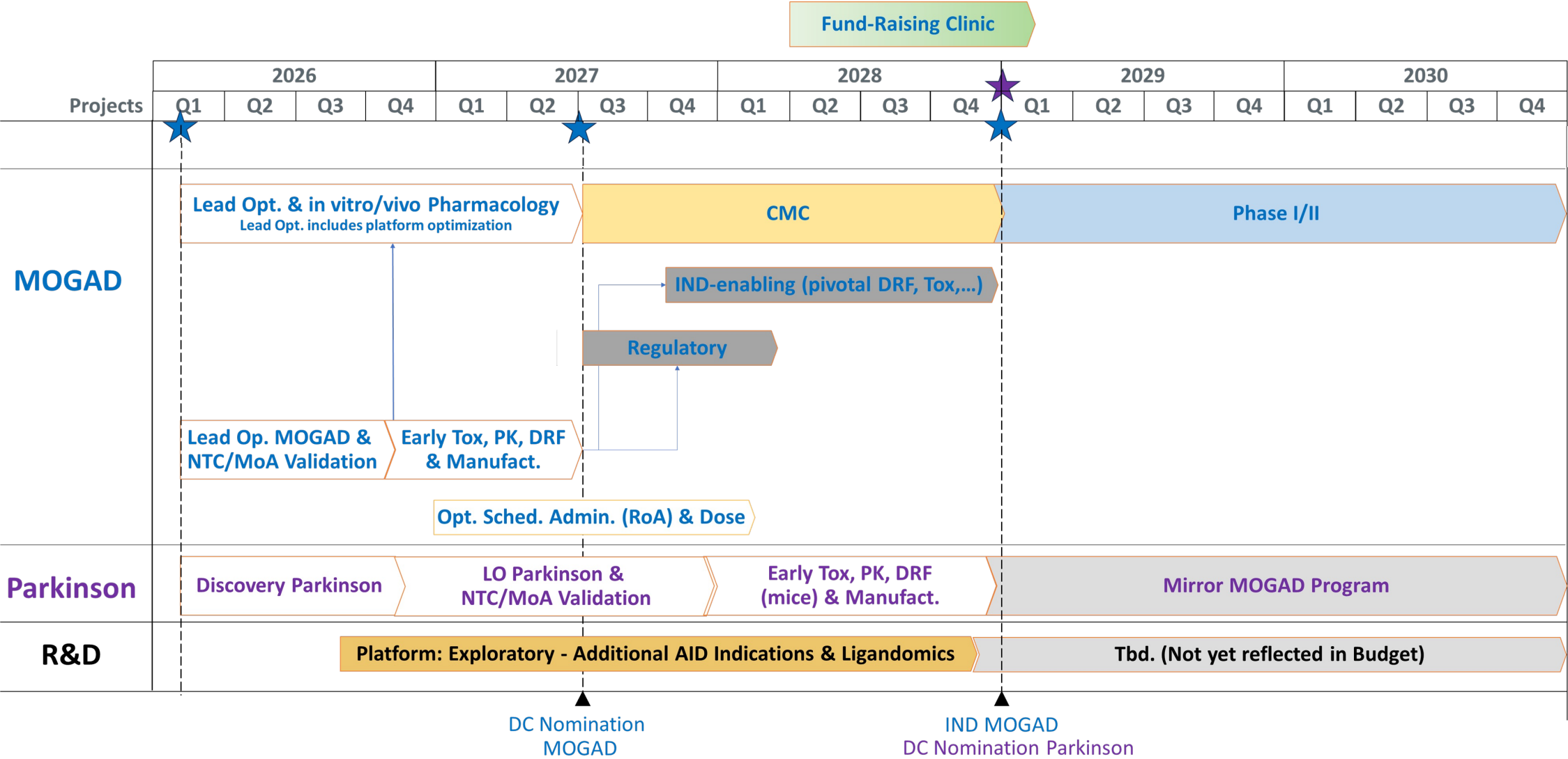
AsymBio

- Production yields (transient CHO-K1 transfection; Vol. up to 3 L) and thermal stability match those of monoclonal antibodies
- High purity after purification (Tag-based or AEX plus SEC-based)
- Favorable developability and stability profiles confirmed by WuXi and AsymBio

Broad platform and composition-of-matter patents

- Exclusive, sublicensable license on patent family from the University of Würzburg
- Platform patent filed in major countries in 2017 (granted in KR, CN, AU, JP)
 - covers combination of MHC class Ib + organ-typical peptides for treatment of AID
- MOGAD/MS, NMOSD, PD and type 1 diabetes applications in 2022 (nationalized ~30 countries) and 2023
 - composition on matter patents cover development candidates / most effective antigen peptides
- External IP on linker structure expires 2027
- Portfolio managed by Dr. Lasse Weinmann / Hoffmann Eitle

Clear development plan towards FIM trials in 2029



Expert founder team & designated chair



Valentin Bruttel

Co-inventor
AIM Bio Platform

Immunologist
and Bioengineer



Jörg Wischhusen

Co-inventor
AIM Bio Platform

Professor for
Immunology,
Scientific Founder
CatalYm



Markus Haake

Drug Discovery and
Development

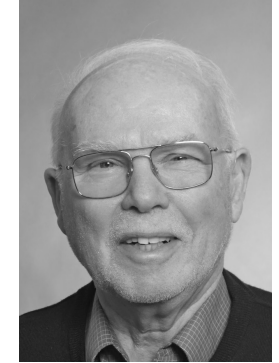
Chemist
Co-Founder CatalYm



Thomas Hanke

Designated Chairman
of the Board

Evotec, Novo Nordisk,
TeGenero



Jürgen Engel

Co-founder,
interim CEO

Asta Medica/Degussa,
Aterna Zentaris
em. Prof. Pharmaceutical
Chemistry,
Hon. Prof. TU Dresden



company contact: info@toleris.com

Renowned advisors

HLA-G / Immunology



Jörg Wischhusen
Co-founder

Professor
Immunology



Parkinson's Disease



Chi Wang Ip
Co-founder

Professor
Neurology



MS/MOGAD/NMOSD



Michael Levy

Professor
Neurology



Friedemann Paul

Professor
Neurology



Potential to lead the field of antigen-specific CD8⁺ Treg induction

Toleris

De novo antigen-specific CD4⁺ Treg induction



De novo antigen-specific FoxP3⁺ CD8⁺ Treg induction

Toleris



Treg-based cell therapies



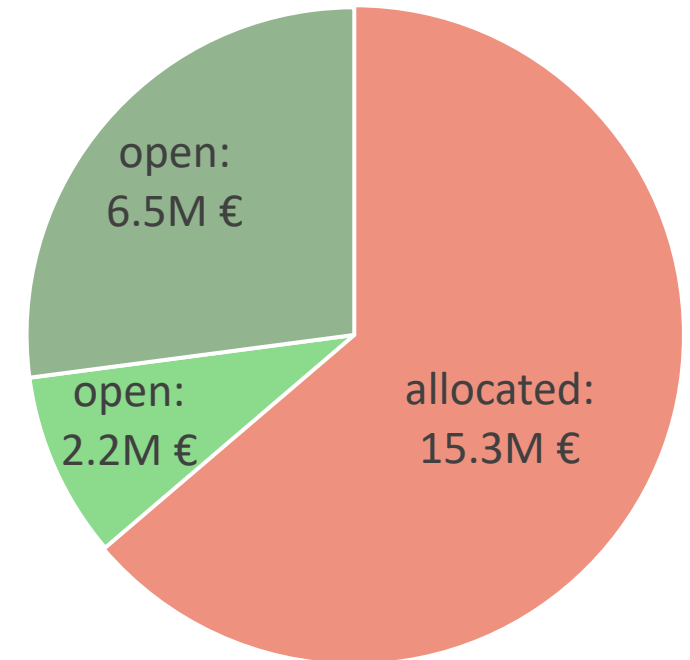
Endogenous CD8⁺ Treg reactivation or mobilization

- No therapeutics persistently stopping disease progression approved for MS/MOGAD or Parkinson's

Aiming for a 24M € seed round in 2026

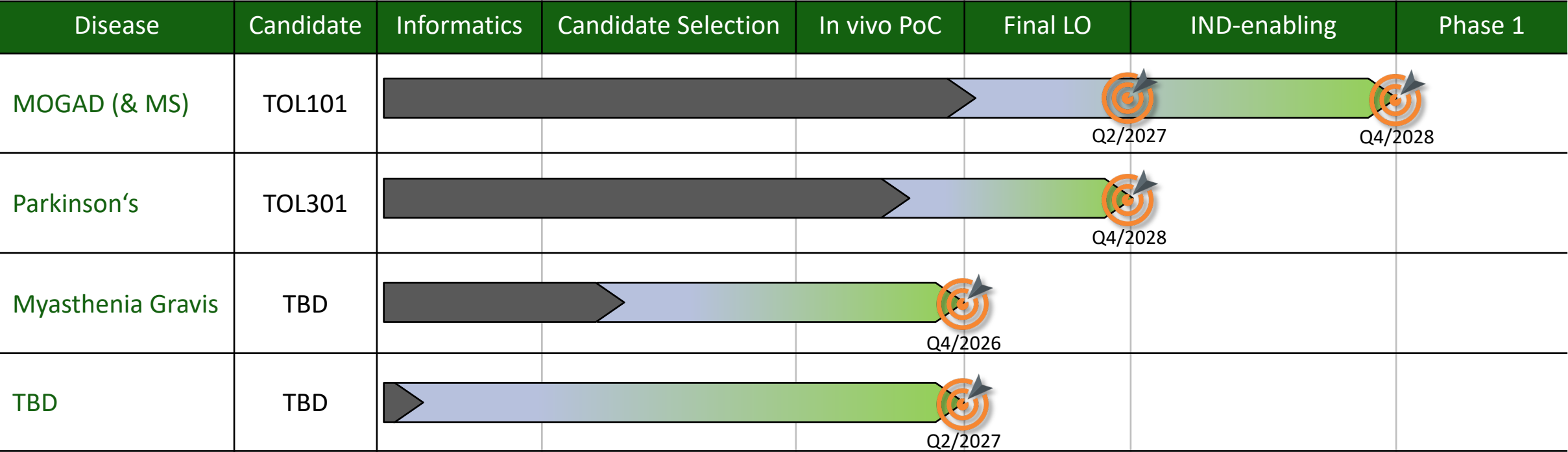
- €24M seed round underway
- Term sheet signed with:
 - Lead-Investor:
 - Top-tier international corporate venture
 - Co-investors:
 - Independent venture fund
 - Regional investment fund
 - UK disease-focused fund

24M € seed round in progress



- 1-2 tickets of €8.7M total open; additional co-lead possible

Focus on two lead programs and pipeline-building



= Key value inflection point



DC nomination



IND-ready

- First-in-Class antigen-specific CD8⁺ Treg-inducing platform
- Five *in vivo* disease models confirm potent, targeted and durable tolerance induction
- Human, patient-derived PBMC-based PoC supports clinical translatability
- Potentially curative, organ-specific immune tolerance approach
- Potentially applicable to >80 autoimmune diseases
- Favorable manufacturability & safety profile
- Experienced and dedicated team
- €24M Seed round sought
- €11M open for new investors; co-lead possible