



Applied StemCell

PRODUCT DATA SHEET

TARGATT™ RUO Hypo Plus Human iPSC

Catalog No. AST-9750 RUO • Rev. 11 August

Product Overview

A characterized iPSC starting point for allogeneic and multilineage immune-evasion research. The TARGATT™ RUO Hypo Plus Human iPSC line combines a B2M and CIITA double knockout, which removes HLA class I and II expression, with five complementary immune-modulatory knock-ins (HLA-F-B2M, CD200, CCL21, HLA-G-B2M, and SERPINB9) introduced with TARGATT™ large knock-in technology at the H11 safe harbor locus.

The line was reprogrammed from CD34+ umbilical cord blood cells of a male donor using episomal factors, offering reduced immunogenicity and fewer somatic mutations than reprogrammed adult cells. The knock-in elements were selected for their intended biological roles: HLA-F-B2M and HLA-G-B2M for innate immunity, particularly NK-cell activity; CD200 for myeloid cell interactions; CCL21 for immune recruitment; and SERPINB9 for inhibition of granzyme B-mediated cytotoxicity.

Key Features & Benefits

Feature	Benefit
B2M / CIITA double knockout	Removes HLA class I and II expression, reducing recognition by CD8+ and CD4+ T cells.
Five immune-modulatory knock-ins (HLA-F-B2M, CD200, CCL21, HLA-G-B2M, SERPINB9)	Complementary elements addressing multiple adaptive and innate immune pathways for research use.
H11 safe harbor integration with TARGATT™ technology	Reliable, consistent gene expression from a defined locus.
CD34+ safe background	Reduced immunogenicity and fewer somatic mutations compared with reprogrammed adult cells.

Applications

- Allogeneic and multilineage immune-evasion research
- Studies of NK-cell, myeloid, and T-cell interactions with engineered iPSCs
- Hypoimmunogenic disease models

Product Specifications

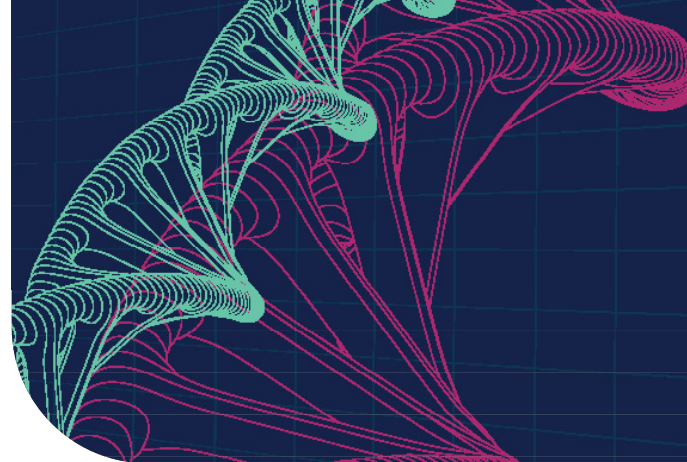
Product Type	RUO
Cell Type	TARGATT™ RUO Hypo Plus human iPSC line
Source / Background	CD34+ umbilical cord blood cells; male donor
Reprogramming Method	Episomal
Immune Engineering	B2M and CIITA double knockout; five immune-modulatory knock-ins (HLA-F-B2M, CD200, CCL21, HLA-G-B2M, SERPINB9)
Integration Locus	H11 safe harbor (TARGATT™ technology)
Format / Quantity	Cryopreserved cells, 1 × 10 ⁶ cells/vial
Quality Control	Lot-specific Certificate of Analysis available on request
Storage	Ships on dry ice. Store in liquid nitrogen vapor phase immediately upon receipt

Supporting Data

Genetic Confirmation	Sanger sequencing confirmed frameshift deletions; flow cytometry confirmed loss of B2M protein expression
NK-Cell Protection	Engineered HEK293 cells expressing HLA-G or HLA-F showed significantly lower NK-cell-mediated cytotoxicity than the mCherry control
Marker Expression (clone C25)	CD200: 97.8% positive cells; SERPINB9: 72.4% positive cells; pluripotency markers (OCT4, SOX2, TRA-1-60, SSEA4) maintained in high positive populations
Karyotype	Twenty G-banded metaphase spreads from clone C25 showed an apparently normal 46,XY karyotype
Copy Number Variants	No CNVs detected across 28 recurrent regions evaluated
Sterility	Clones C25 and C26 negative for selected pathogens and mycoplasma; no bacterial or fungal growth detected

Licensing

Contact Applied StemCell to discuss commercial licensing terms and academic use. Characterization figures are provided in the CoA or on request.



Related Services

If you prefer to outsource, Applied StemCell offers custom genome engineering, iPSC gene editing and differentiation, cGMP cell banking and manufacturing, and process, analytical, quality, and regulatory support. Contact us for a custom service project quote.

Ordering Information

Catalog No.	AST-9750
Description	TARGATT™ RUO Hypo Plus Human iPSC
Format	Cells
Pack Size	1.0 × 10 ⁶ cells/vial

Related Products

- AST-9650 – TARGATT™ RUO Hypo hiPSC Knock-in Kit
- AST-9450 – TARGATT™ RUO hiPSC Knock-in Kit
- Contact Applied StemCell for compatible media and related cell models.

Contact & Ordering

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Ready to accelerate your genome engineering project?

Scan the QR code or visit our website to explore product details, access technical resources, discover related TARGATT™ solutions, and request a consultation with our scientific team.

