



46° Convegno Nazionale di Studi di Medicina Trasfusionale

Rimini, 13-15 maggio 2026

FROM DONOR COHORTS TO GENOMIC DATA: NEW PERSPECTIVES IN TRANSFUSION MEDICINE

Luisa Ronzoni

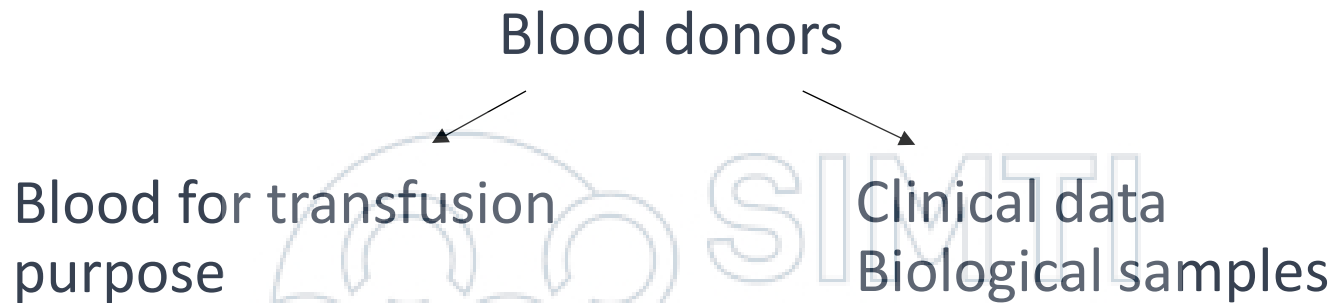
*Rare Blood Bank, Department of Transfusion Medicine
Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico
Milano*

The undersigned Speaker, declare that

in carrying out the function stated above at this event, I do not have any personal or third-party commercial interests, and that any relationships that I have had in the last two years with subjects with commercial interests are not such as to influence my function in order to draw any advantage

Blood Donors in Biomedical Research

- **Well-characterized population:** reflect population diversity



- **Perspective follow-up:** study of biomarkers in consecutive samples taken years before disease development
- **Community Contribution:** health data and time for the betterment of the community

Blood Donors in Biomedical Research

Likelihood to participate in Biomedical Research



epidemiological, preventive, and genetic studies
for global health improvement

Art. 32.

*Programmi di prevenzione
ed educazione sanitaria*

.....

e delle Associazioni e Federazioni dei donatori volontari di sangue operanti sul territorio, promuovono iniziative di prevenzione ed educazione sanitaria sulla base dell'analisi e della valutazione epidemiologica dei dati rilevati sui donatori e sulle donazioni.

GU 2015

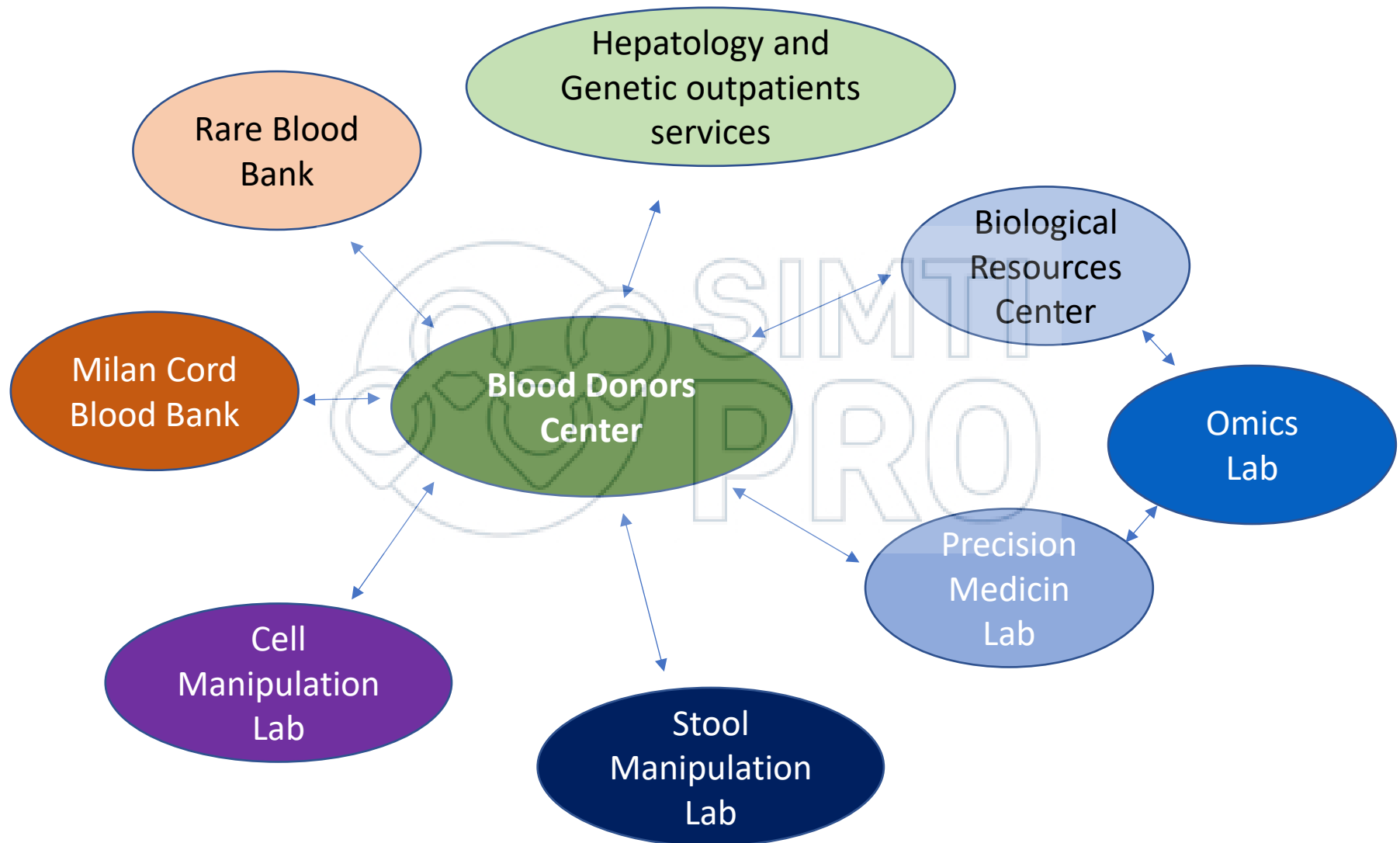
The Milano Donor Cohort

Transfusion Medicine Unit

Fondazione IRCCS Ca' Granda – Ospedale Maggiore Policlinico

- Approximately 30,000 active donors
- Clinical, biochemical and virological data collected in dedicated database
- Samples of each donor (buffy-coat and plasma) collected in the Biological Resources Center, which is part of transfusion medicine department

Transfusion Medicine Unit



The Milano Donor Cohort - research fields

- **Epidemiological studies:** incidence and natural history of viral infections (HCV, HBV, HIV, SARS-CoV-2)
- **Clinical studies:** diagnostic tools for liver disease; evaluation of hematological data
- **Genetic studies:** control group for genetic diseases
- **Precision medicine in liver diseases:** identification of at-risk individuals
- **Rare blood donors characterization**

Epidemiological studies

➤ [Blood Transfus.](#) 2021 May;19(3):181-189. doi: 10.2450/2021.0324-20. Epub 2021 Feb 3.

SARS-CoV-2 seroprevalence trends in healthy blood donors during the COVID-19 outbreak in Milan

Luca Valenti ^{1 2}, Annalisa Bergna ^{3 4}, Serena Pelusi ^{1 2}, Federica Facciotti ⁵, Alessia Lai ^{3 4},
Maciej Tarkowski ^{3 4}, Angela Lombardi ², Alessandra Berzuini ², Flavio Caprioli ^{1 6}, Luigi Santoro ²,
Guido Baselli ², Carla Della Ventura ^{3 4}, Elisa Erba ², Silvano Bosari ^{1 7}, Massimo Galli ^{3 4},
Gianguglielmo Zehender ^{3 4}, Daniele Prati ²; Covid-19 Donors Study (CoDS) network (Appendix 1)

Epidemiological studies

➤ [Blood Transfus.](#) 2021 May;19(3):181-189. doi: 10.2450/2021.0324-20. Epub 2021 Feb 3.

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➤ [Transfusion.](#) 2021 Dec;61(12):3381-3389. doi: 10.1111/trf.16693. Epub 2021 Oct 14.

Trends and risk factors of SARS-CoV-2 infection in asymptomatic blood donors

Luca Valenti ^{1 2}, Serena Pelusi ², Alessandro Cherubini ², Cristiana Bianco ², Luisa Ronzoni ²,
Sara Uceda Renteria ³, Elena Coluccio ², Alessandra Berzuini ², Angela Lombardi ²,
Leonardo Terranova ⁴, Francesco Malvestiti ¹, Giuseppe Lamorte ², Elisa Erba ², Massimo Oggioni ³,
Ferruccio Ceriotti ³, Daniele Prati ²

Epidemiological studies

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Seroconversion was more frequent
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Giuseppe Lamorte ², Elisa Erba ², Massimo Oggioni ³,

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➤ [J Viral Hepat.](#) 2020 Aug;27(8):858-861. doi: 10.1111/jvh.13296. Epub 2020 Apr 8.

Prevalence and 9-year incidence of hepatitis E virus infection among North Italian blood donors: Estimated transfusion risk

Marta Spreafico ¹, Livia Raffaele ¹, Irene Guarnori ¹, Barbara Foglieni ¹, Alessandra Berzuini ²,
Luca Valenti ^{2 3}, Alessandro Gerosa ¹, Agostino Colli ⁴, Daniele Prati ²

Clinical studies

➤ *Hepatol Commun.* 2021 Nov;5(11):1824-1832. doi: 10.1002/hep4.1794. Epub 2021 Sep 14.

Definition of Healthy Ranges for Alanine Aminotransferase Levels: A 2021 Update

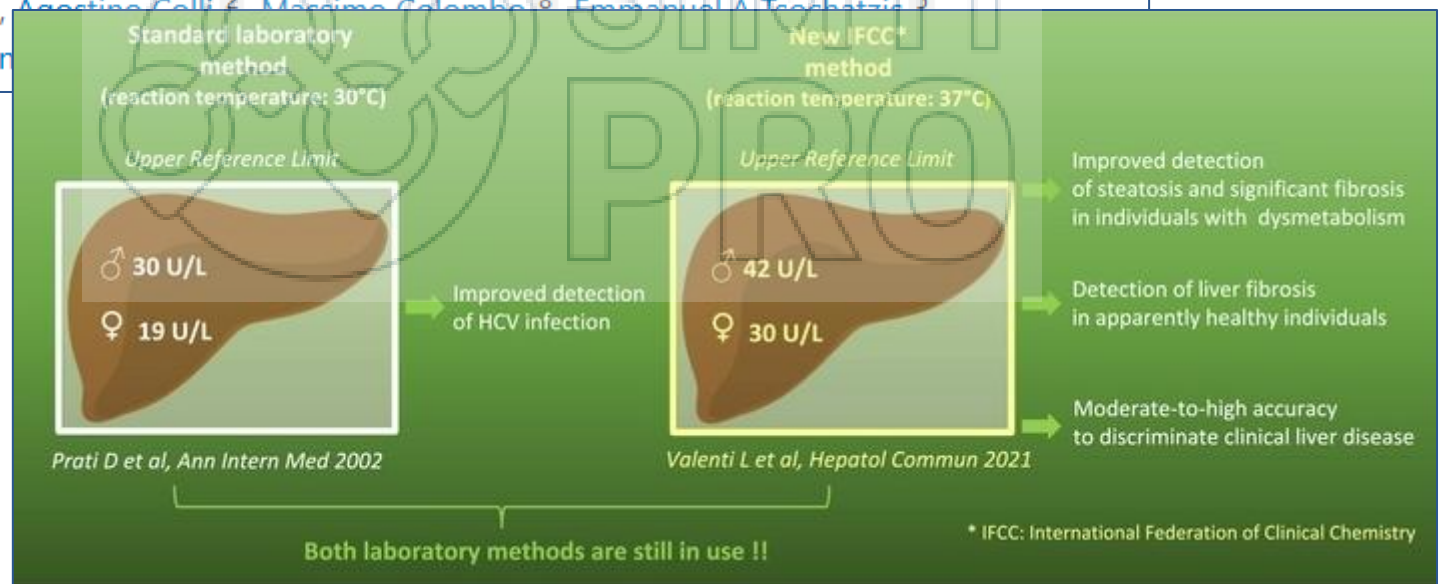
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Pietro Lampertico ^{6 7}, Agostino Colli ², Massimo Colombo ⁸, Emmanuel A Tsochatzis ⁵,
Mirella Fraquelli ⁹, Daniele Prati ²

Clinical studies

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Clinical studies

Folate levels in a cohort of blood donors with low hemoglobin levels

	Overall cohort
	n=1344
Age, years	42±14
Hb, g/dl	12.1 [11.7-12.4]
MCV, fl	85 [81-88]
Leukocytes, 10 ³ U/ul	5.5 [4.7-6.5]
Platelet, 10 ³ U/ul	256 [222-302]
Ferritin, ng/ml	24 [12-52]
Ferritin <15 ng/ml, n (%)	445 (33)
Folate, ng/ml	4.5 [3.2-6.8]
Folate <4.6 ng/ml, n (%)	680 (51)
Vitamin B12, pg/ml	407 [317-514]
Vitamin B12 <191 pg/ml, n (%)	23 (2)
Blood donations, n	7 [3-18]

Clinical studies

Folate levels in a cohort of blood donors with low hemoglobin levels

	Overall cohort	Male	Female	p value
	n=680	n=204 (53%)	n=476 (49%)	
Age, years	40±14	48±13	36±13	< 0.0001
Hb, g/dl	12.1 [11.6-12.5]	13 [12.7-13.2]	11.9 [11.5-12.2]	
MCV, fl	85 [81-88]	85 [81-89]	84 [81-88]	0.1
Leukocytes, 10 ³ U/ul	5.7 [4.9-6.8]	5.5 [4.8-6.5]	5.7 [5-6.9]	0.03
Platelet, 10 ³ U/ul	257 [225-305]	233 [201-270]	270 [233-316]	< 0.0001
Ferritin, ng/ml	22 [11-48]	42 [19-88]	17 [10-37]	< 0.0001
Ferritin <15 ng/ml, n (%)	250 (37)	35 (17)	215 (45)	< 0.0001
Folate, ng/ml	3.2 [2.5-3.9]	3.3 [2.4-3.9]	3.2 [2.5-3.9]	0.6
Vitamin B12, pg/ml	392 [307-486]	390 [321-482]	393 [298-486]	0.4
Vitamin B12 <191 pg/mL, n (%)	10 (1.6)	2 (0.9)	8 (1.7)	0.7
Blood donations, n	6 [2-18]	21 [7-43]	4 [2-9]	< 0.0001

Preliminary study to get insight into folate metabolism in blood donors

ABS101

Genetic studies

Multicenter Study > N Engl J Med. 2020 Oct 15;383(16):1522-1534.

doi: 10.1056/NEJMoa2020283. Epub 2020 Jun 17.

Genomewide Association Study of Severe Covid-19 with Respiratory Failure



Genetic studies

Multicenter Study > N Engl J Med. 2020 Oct 15;383(16):1522-1534.

doi: 10.1056/NEJMoa2020283. Epub 2020 Jun 17

Genomewide Association with Respiratory Failure

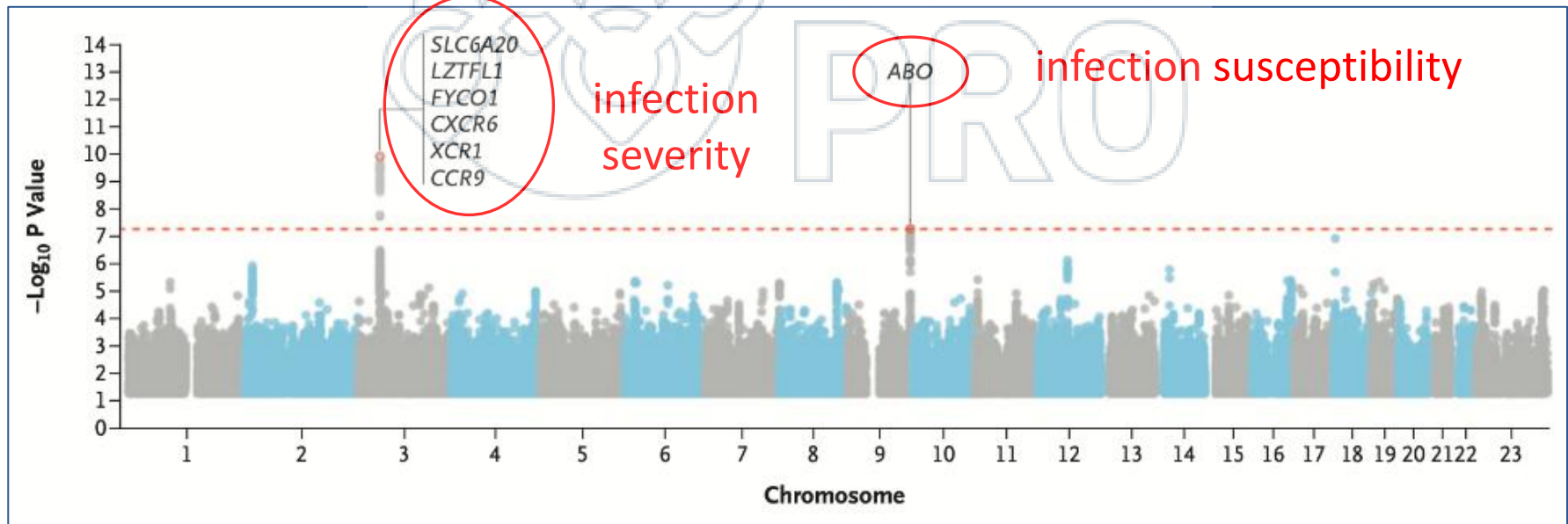
To define inherited determinants of
Severe COVID-19

We provided ~500 patients and ~3000
healthy controls

3p gene cluster

infection
severity

infection susceptibility



Genetic studies

Comment

➤ [Transfusion. 2020 Dec;60\(12\):3067-3070. doi: 10.1111/trf.16130. Epub 2020 Oct 19.](#)

Association of ABO blood group and secretor phenotype with severe COVID-19

Luca Valenti ^{1 2}, Stefania Villa ², Guido Baselli ², Roberta Temporiti ², Alessandra Bandera ³,
Luigia Scudeller ⁴, Daniele Prati ²



Genetic studies

Comment

➤ Transfusion. 2020 Dec;60(12):3067-3070. doi: 10.1111/trf.16130. Epub 2020 Oct 19.

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phenot

Luca Valenti¹
Luigia Scudell

Clinical Trial

➤ J Clin Invest. 2021 Dec 1;131(23):e152386. doi: 10.1172/JCI152386.

Age-dependent impact of the major common genetic risk factor for COVID-19 on severity and mortality

Tomoko Nakanishi^{1 2 3 4 5}, Sara Pigazzini^{1 6}, Frauke Degenhardt⁷, Mattia Cordioli¹, Guillaume Butler-Laporte^{3 8}, Douglas Maya-Miles^{9 10}, Luis Bujanda¹¹, Youssef Bouysran¹², Mari Ek Niemi¹, Adriana Palom^{13 14 15}, David Ellinghaus^{7 16}, Atlas Khan¹⁷, Manuel Martínez-Bueno¹⁸, Selina Rolker¹⁹, Sara Amitrano²⁰, Luisa Roade Tato^{10 13 14}, Francesca Fava^{20 21 22}, FinnGen; COVID-19 Host Genetics Initiative (HGI); Christoph D Spinner²³, Daniele Prati²⁴, David Bernardo^{10 25}, Federico Garcia^{26 27}, Gilles Darcis^{28 29}, Israel Fernández-Cadenas³⁰, Jan Cato Holter^{31 32}, Jesus M Banales^{11 33}, Robert Frithiof³⁴, Krzysztof Kiryluk¹⁷, Stefano Duga^{35 36}, Rosanna Asselta^{35 36}, Alexandre C Pereira³⁷, Manuel Romero-Gómez^{9 10}, Beatriz Nafria-Jiménez³⁸, Johannes R Hov^{31 39 40}, Isabelle Migeotte^{12 41}, Alessandra Renieri^{20 21 22}, Anna M Planas^{42 43}, Kerstin U Ludwig¹⁹, Maria Buti^{10 13 14}, Souad Rahmouni²⁷, Marta E Alarcón-Riquelme^{18 44}, Eva C Schulte^{45 46 47}, Andre Franke^{7 48}, Tom H Karlsen^{32 39 40}, Luca Valenti^{49 50}, Hugo Zeberg^{51 52}, J Brent Richards^{2 3 9 53}, Andrea Ganna^{1 54}

Genetic studies

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Luca Valenti¹

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Age-dependent impact of the major common genetic risk factor for COVID-19 on severity and mortality

Meta-Analysis

> Hum Mol Genet. 2022 Nov 10;31(22):3789-3806. doi: 10.1093/hmg/ddac132.

Novel genes and sex differences in COVID-19 severity

Francesca Fava^{20 21 22}, FinnGen; COVID-19 Host Genetics Initiative (HGI); Christoph D Spinner²³, Daniele Prati²⁴, David Bernardo^{10 25}, Federico Garcia^{26 27}, Gilles Darcis^{28 29}, Israel Fernández-Cadenas³⁰, Jan Cato Holter^{31 32}, Jesus M Banales^{11 33}, Robert Frithiof³⁴, Krzysztof Kiryluk¹⁷, Stefano Duga^{35 36}, Rosanna Asselta^{35 36}, Alexandre C Pereira³⁷, Manuel Romero-Gómez^{9 10}, Beatriz Nafría-Jiménez³⁸, Johannes R Hov^{31 39 40}, Isabelle Migeotte^{12 41}, Alessandra Renieri^{20 21 22}, Anna M Planas^{42 43}, Kerstin U Ludwig¹⁹, Maria Buti^{10 13 14}, Souad Rahmouni²⁷, Marta E Alarcón-Riquelme^{18 44}, Eva C Schulte^{45 46 47}, Andre Franke^{7 48}, Tom H Karlsen^{32 39 40}, Luca Valenti^{49 50}, Hugo Zeberg^{51 52}, J Brent Richards^{2 3 9 53}, Andrea Ganna^{1 54}

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➤ Hum Mol Genet. 2022 Nov 10;31(22):3789-3806. doi: 10.1093/hmg/ddac132.

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➤ Nature. 2023 Sep;621(7977):E7-E26. doi: 10.1038/s41586-023-06355-3.

Epub 2023 Sep 6.

Francesca

Daniele P

Israel Fer

Krzysztof

Manuel R

Isabelle M

Maria Bu

A second update on mapping the human genetic architecture of COVID-19

COVID-19 Host Genetics Initiative

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J Brent Richards^{2 3 9 53}, Andrea Ganna^{1 54}

Genetic studies

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➤ Transfusion. 2020 Dec;60(12):3067-3070. doi: 10.1111/trf.16130. Epub 2020 Oct 19.

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➤ J Clin Invest. 2021 Dec 1;131(23):e152386. doi: 10.1172/JCI152386.

Luca Valenti¹

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Age-dependent impact of the major common genetic risk factor for COVID-19 on severity and mortality

➤ HGG Adv. 2024 Oct 10;5(4):100323. doi: 10.1016/j.xhgg.2024.100323. Epub 2024 Jun 28.

Stratified analyses refine association between TLR7 rare variants and severe COVID-19

Jannik Boos¹, Caspar I van der Made², Gayatri Ramakrishnan³, Eamon Coughlan⁴, Rosanna Asselta⁵, Britt-Sabina Löscher⁶, Luca V C Valenti⁷, Rafael de Cid⁸, Luis Bujanda⁹, Antonio Julià¹⁰, Erola Pairo-Castineira⁴, J Kenneth Baillie⁴, Sandra May⁶, Berina Zametica¹, Julia Heggemann¹, Agustín Albillos¹¹, Jesus M Banales¹², Jordi Barretina¹³, Natalia Blay⁸, Paolo Bonfanti¹⁴, Maria Buti¹⁵, Javier Fernandez¹⁶, Sara Marsal¹⁰, Daniele Prati¹⁷, Luisa Ronzoni¹⁷, Nicoletta Sacchi¹⁸; Spanish/Italian Severe COVID-19 Sequencing group; GenOMICC Investigators; Joachim L Schultze¹⁹, Olaf Riess²⁰, Andre Franke⁶, Konrad Rawlik²¹, David Ellinghaus⁶, Alexander Hoischen², Axel Schmidt¹, Kerstin U Ludwig²²

Genetic studies

Comment

➤ Transfusion. 2020 Dec;60(12):3067-3070. doi: 10.1111/trf.16130. Epub 2020 Oct 19.

Association phenotype

Clinical Trial

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Julia Heggemann¹,

Paolo Bonfanti¹⁴, M

Luisa Ronzoni¹⁷, Ni

GenOMICC Investiga

David Ellinghaus⁶, Alexander Hohenberg¹, Axel Schmidt¹, Kerstin O Ludwig

➤ Nat Genet. 2025 Jun;57(6):1402-1417. doi: 10.1038/s41588-025-02100-w. Epub 2025 May 21.

Genome-wide association study of long COVID

Genetic studies

➤ Front Immunol. 2026 Apr 10;17:1777516. doi: 10.3389/fimmu.2026.1777516. eCollection 2026.

Association of blood group B and of rare variants affecting immune system with multisystem inflammatory syndrome in children in an Italian cohort

Luisa Ronzoni ¹, Giada Maria Di Pietro ², Angela Lombardi ¹, Lorenzo Miano ³, Francesca Minoia ⁴, Lucia Baselli ⁴, Giovanni Filocamo ⁴, Veronica Torcianti ¹, Francesco Malvestiti ³, Samantha Bosis ⁵, Daniele Prati ¹, Luca Valenti ^{1,3}

B allele	MIS-C overall	Controls overall	OR	95% CI	p-value
	(n = 18)	(n = 2927)			
0/1/2	61/33/6	84.5/15/0.5	2.9	1.04–8.5	0.04



Blood group B alleles conferred a 2.9-fold increased risk of MIS-C independently of sex, ethnicity, the presence of COVID-19, and blood group A

Genetic studies

NGS technology (Whole Exome / Genome Sequencing) to get a genetic diagnosis in rare diseases



Blood donor cohorts as control groups representative of the general population to compare variants frequency and to get insight into diseases pathogenesis

Genetic studies

➤ Clin Gastroenterol Hepatol. 2026 Apr;24(4):1035-1043. doi: 10.1016/j.cgh.2025.07.031.

Epub 2025 Aug 5.

Diagnostic Yield of Whole Exome Sequencing in Adult-onset Cholestatic Liver Disease

Miki Scaravaglio ¹, Luisa Ronzoni ², Laura Cristoferi ³, Lorenzo Miano ⁴, Eugenia Nofit ³,
Alessio Gerussi ⁵, Federica Malinverno ⁵, Vittoria Moretti ², Veronica Torcianti ², Chiara Caime ¹,
Massimiliano Cadamuro ¹, Lorenzo D'Antiga ⁶, Pietro Invernizzi ⁵, Marco Carbone ⁷, Luca Valenti ⁸

Genetic studies

➤ Clin Gastroenterol Hepatol. 2026 Apr;24(4):1035-1043. doi: 10.1016/j.cgh.2025.07.031.

Epub 2025 Aug 5.

Diagnostic Uptake of Targeted Sequencing in Adults With Steatotic Liver Disease and a Suspected Genetic Contribution

Miki Scaravaglio¹,
Alessio Gerussi⁵,
Massimiliano Cada

➤ Liver Int. 2025 Mar;45(3):e70010. doi: 10.1111/liv.70010.

Diagnostic Uptake of Targeted Sequencing in Adults With Steatotic Liver Disease and a Suspected Genetic Contribution

Luisa Ronzoni¹, Serena Pelusi¹, Vittoria Moretti¹, Francesco Malvestiti²,
Hadi Eidgah Torghabehei³, Oveis Jamialahmadi⁴, Jessica Rondena¹, Cristiana Bianco¹,
Giulia Periti¹, Maria Rosaria De Filippo³, Stefano Romeo^{4 5 6}, Daniele Prati¹, Luca Valenti^{1 2 3}

Genetic studies

➤ Clin Gastroenterol Hepatol. 2026 Apr;24(4):1035-1043. doi: 10.1016/j.cgh.2025.07.031.

Epub 2025 Aug 5.

➤ Liver Int. 2025 Mar;45(3):e70010. doi: 10.1111/liv.70010.

Diagnosti

Adult on

Diagnostic Uptake of Targeted Sequencing in Adults Genetic

Clinical Trial

➤ J Clin Invest. 2026 Feb 10;136(8):e201762. doi: 10.1172/JCI201762.

MeCollection 2026 Apr 15.

Carriage of rare APOB variants predisposes to severe steatotic liver disease and hepatocellular carcinoma

Matteo Mureddu¹, Serena Pelusi², Oveis Jamialahmadi³, Marijana Vujkovic^{4 5}, Lorenzo Miano^{1 2}, Hadi Eidgah Torghabehei⁶, Luisa Ronzoni², Francesco Malvestiti¹, Marco Saracino⁷, Giulia Periti², Vittoria Moretti², Craig C Teerlink^{8 9}, Julie A Lynch^{8 9}, Philip S Tsao¹⁰, Josephine P Johnson^{4 5}, Vincenzo La Mura^{1 11}, Robertino Dilella¹², Saleh A Alqahtani¹³, Alessandro Cherubini²; EPIDEMIC Study Investigators; Million Veteran Program; Francesco Paolo Russo¹⁴, Roberta D'Ambrosio¹⁵, Mirella Fraquelli¹⁶, Salvatore Petta¹⁷, Luca Miele¹⁸, Umberto Vespasiani-Gentilucci¹⁹, Elisabetta Bugianesi²⁰, Rosellina M Mancina^{3 21 22}, Paolo Parini²³, Daniele Prati², Kyong-Mi Chang^{4 5}, Carolin V Schneider²⁴, Stefano Romeo^{3 23 25 26 27}, Luca Vc Valenti^{1 2}

Valenti^{1 2 3}

Genetic studies

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Lorenzo Miano ^{1 2}, Hadi Eidgah Torghabehei ⁶, Luisa Ronzoni ², Francesco Malvestiti ¹,
Marco Saracino ⁷, Giulia Periti ², Vittoria Moretti ², Craig C Teerlink ^{8 9}, Julie A Lynch ^{8 9},

Philip

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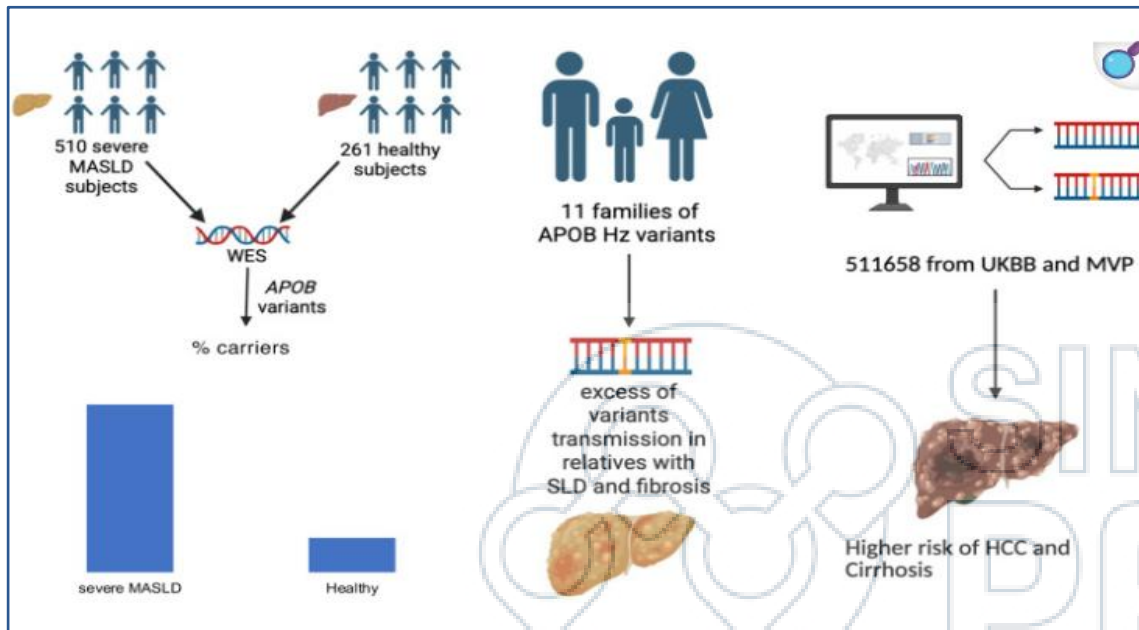
Rosellina M Mancina ¹⁰, Paolo Parini ¹¹, Daniele Prati ¹², Kyong-Mi Chang ¹³,

Carolyn V Schneider ²⁴, Stefano Romeo ^{3 23 25 26 27}, Luca Vc Valenti ^{1 2}

¹,
Valenti ^{1 2 3}

510 patients with advanced MASLD, 261 healthy controls characterized through WES

Genetic studies



APOB variants were enriched in people with advanced MASLD (OR 13.8, 95% CI: 2.7–70.7, $P=0.002$) and associated with lower circulating lipids, but higher MASLD activity and fibrosis



Pay attention to donors with low cholesterol levels

Rare *APOB* variants predispose individuals to advanced MASLD and HCC

The Milano Donor Cohort

Data from

- Whole Exome Sequencing > 400 healthy subjects (in house)
- Whole Genome Sequencing > 3000 healthy subjects
- Genotyping for GWAS 13000 healthy subjects
(collaboration with Human Technopole)



Contributing to large-scale
population study

Genetic studies – Precision Medicine



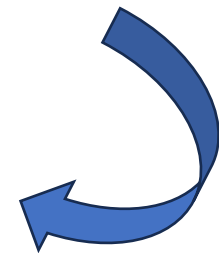
To define a genetic pan-European reference map for translating genomics into personalized risk-based prevention

Precision Medicine

1. Predictive
2. Preventive
3. Personalized
4. Participated

Genetic and molecular markers to detect biological subtypes of diseases and to identify at-risk subjects before clinical manifestations become overt

Personalized therapy and follow-up



The Milan LIVER-BIBLE Cohort

MeTS+

- Blood donors, 40-65 years, metabolic risk factors
- “Metabolic syndrome” (>2 overweight/obesity, hypertension, low HDL, high TGLs, hyperglycemia)

Organ damage

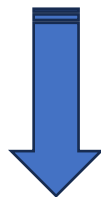
- Metabolic evaluation (HbA1c, insulin, hs-CRP, spot albuminuria, TSH)
- Biobanking of biological samples (including plasma, DNA)
- Fibroscan; carotid and femoral arteries evaluation in those with hyperglycemia
- Lifestyle counselling

Follow-up

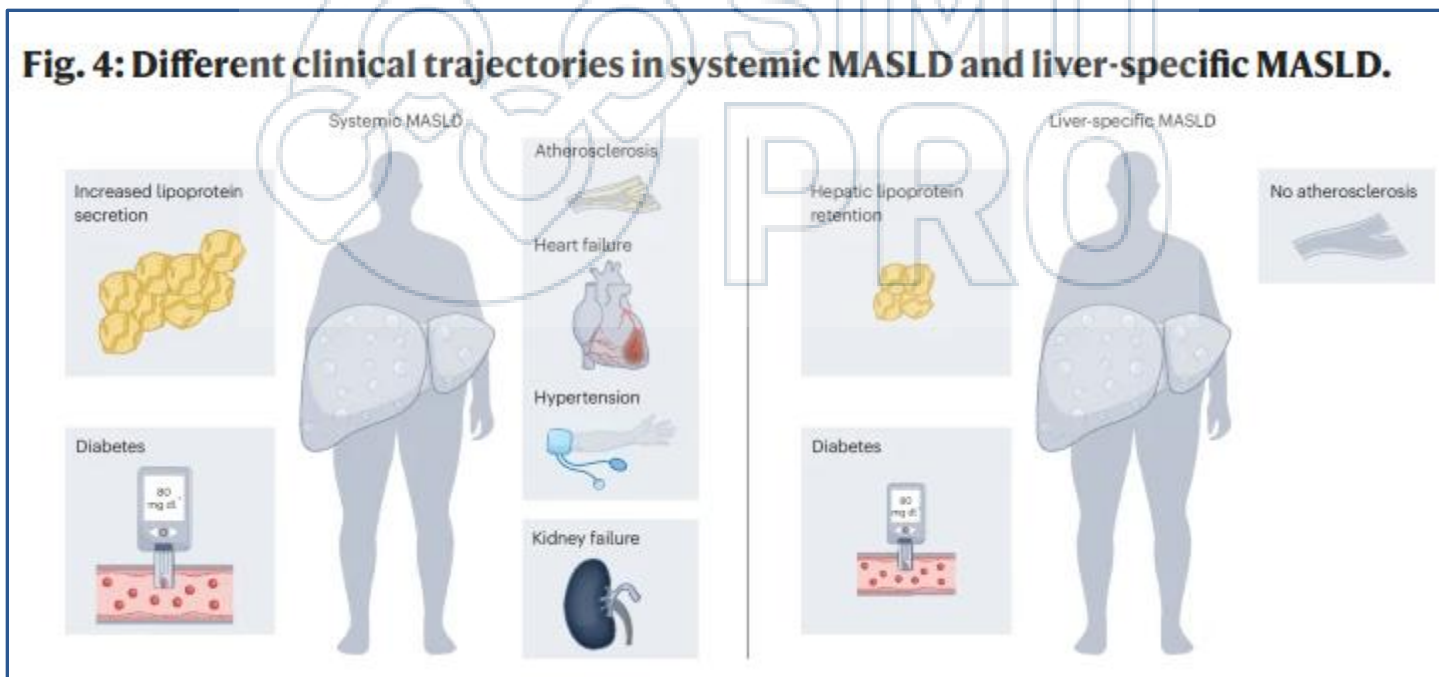
- Second level clinics: internal medicine – hepatology, cardiology, vascular surgery, endocrinology
- Liver biopsy if needed, clinical trials

The Milan LIVER-BIBLE Cohort

2500 subjects -> clinical, imaging and genetics data



Partitioned Polygenic Risk Score (PRS)



Mancina, Valenti, Romeo. Nat Metab. 2025

Genetics and Precision Medicine in Transfusion Medicine

Importance of extensive blood typing to reduce the risk of alloimmunization

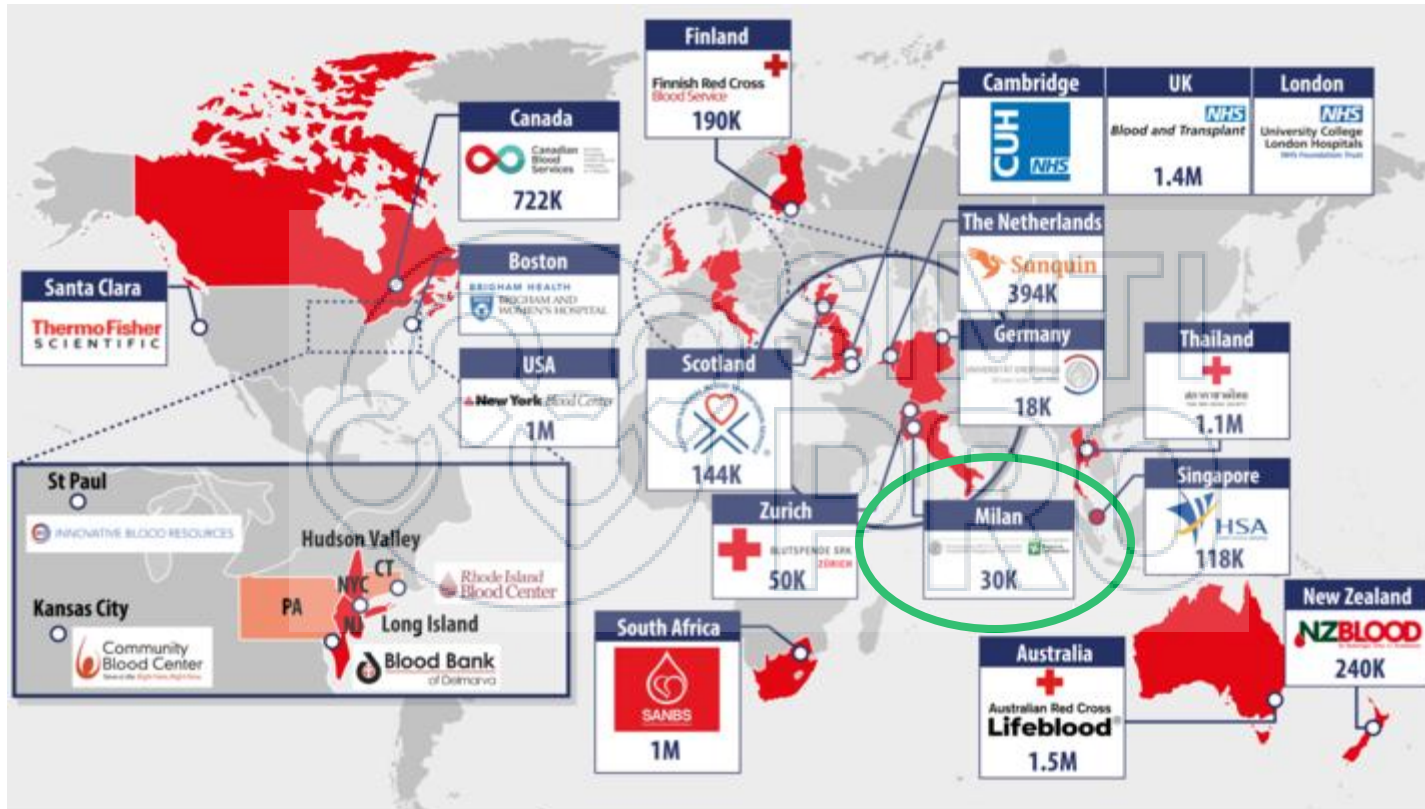


International effort to implement high-throughput technologies for blood typing



- Increased probability to identify rare blood donors
- Better matching between donors and patients

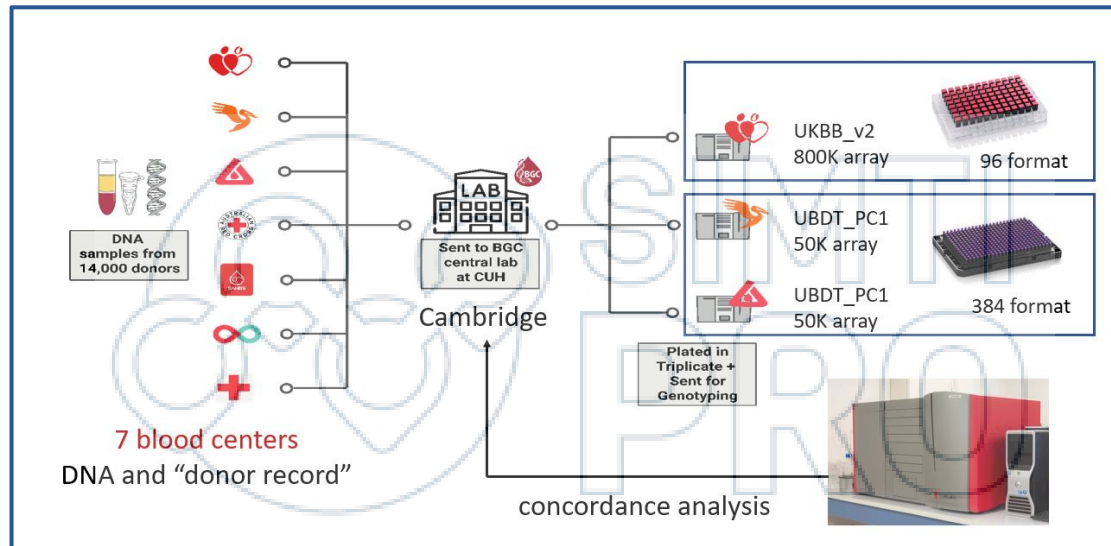
Blood Transfusion Genomic Consortium (BGC)



Comprehensive SNP array

Blood Transfusion Genomic Consortium (BGC)

217 HEA in 38 blood group systems, HPA, HNA and HLA

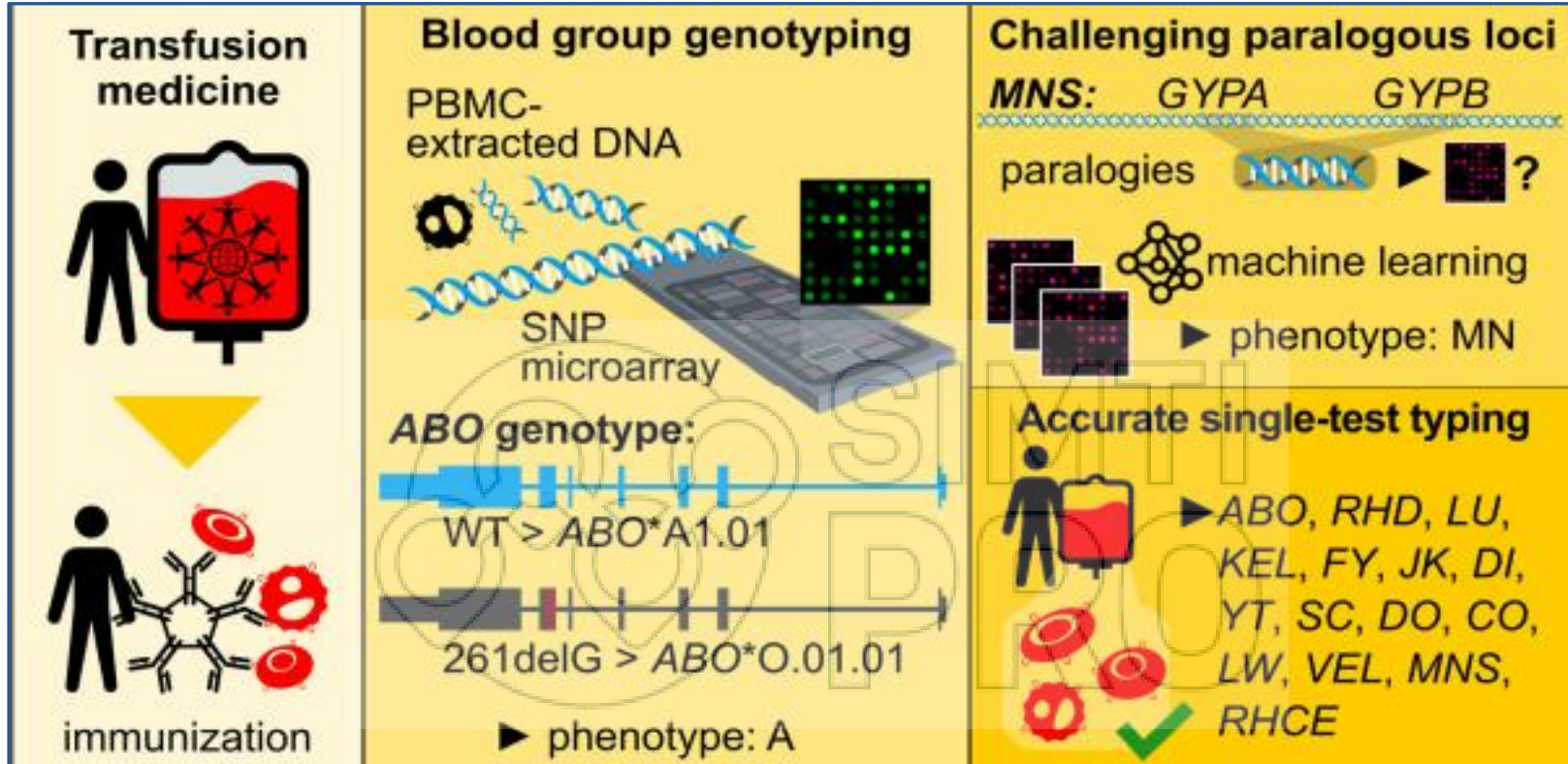


Gleadall N et al. Blood. 2025

We are now evaluating the in-house application of this extensive array as a first-tier screening test for blood donors

ABS072

Extensive array for blood typing



1112 SNPs; benchmarking for 14 systems

Overall accuracy: 99,95%; Concordance rate: 100% for 12 blood group systems; 99.7% for ABO; 98.6% for MNS antigen

NGS for blood typing

> [Transfusion](#). 2020 Sep;60(9):2108-2120. doi: 10.1111/trf.15945. Epub 2020 Jul 20.

Targeted exome sequencing designed for blood group, platelet, and neutrophil antigen investigations: Proof-of-principle study for a customized single-test system

Eileen Roulis ¹, Elizna Schoeman ¹, Matthew Hobbs ², Greg Jones ³, Mark Burton ³, Gail Pahn ³, Yew-Wah Liew ⁴, Robert Flower ¹, Catherine Hyland ¹

We are now evaluating the in-house application of
NGS for blood typing

ABS068, ABS076

NGS for blood typing

> [Transfusion](#). 2020 Sep;60(9):2108-2120. doi: 10.1111/trf.15945. Epub 2020 Jul 20.

Targeted exome sequencing designed for blood group, platelet, and red blood cell antigens: an investigation into the utility of a customized NGS panel

Eileen Roulis ¹, Elizna Yew-Wah Liew ⁴, Robert

> [Heliyon](#). 2024 Jun 25;10(13):e33608. doi: 10.1016/j.heliyon.2024.e33608. eCollection 2024 Jul 15.

Simultaneous high throughput genotyping of 36 blood group systems using NGS based on probe capture technology

Jingjing Zhang ¹, Wenjing Yuan ¹, Xiaozhen Hong ¹, Yanling Ying ¹, Faming Zhu ¹

We are now evaluating the in-house application of
NGS for blood typing

ABS068, ABS076

NGS for blood typing

> [Transfusion](#). 2020 Sep;60(9):2108-2120. doi: 10.1111/trf.15945. Epub 2020 Jul 20.

Targeted exome sequencing designed for blood group, platelet, and antibody investigation customized

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> [Heliyon](#). 2024 Jun 25;10(13):e33608. doi: 10.1016/j.heliyon.2024.e33608. eCollection 2024 Jul 15.

Simultaneous high throughput genotyping of 36 blood group systems using NGS based on probe capture technology

Review

> [Br J Haematol](#). 2025 Jan;206(1):18-32. doi: 10.1111/bjh.19664. Epub 2024 Aug 5.

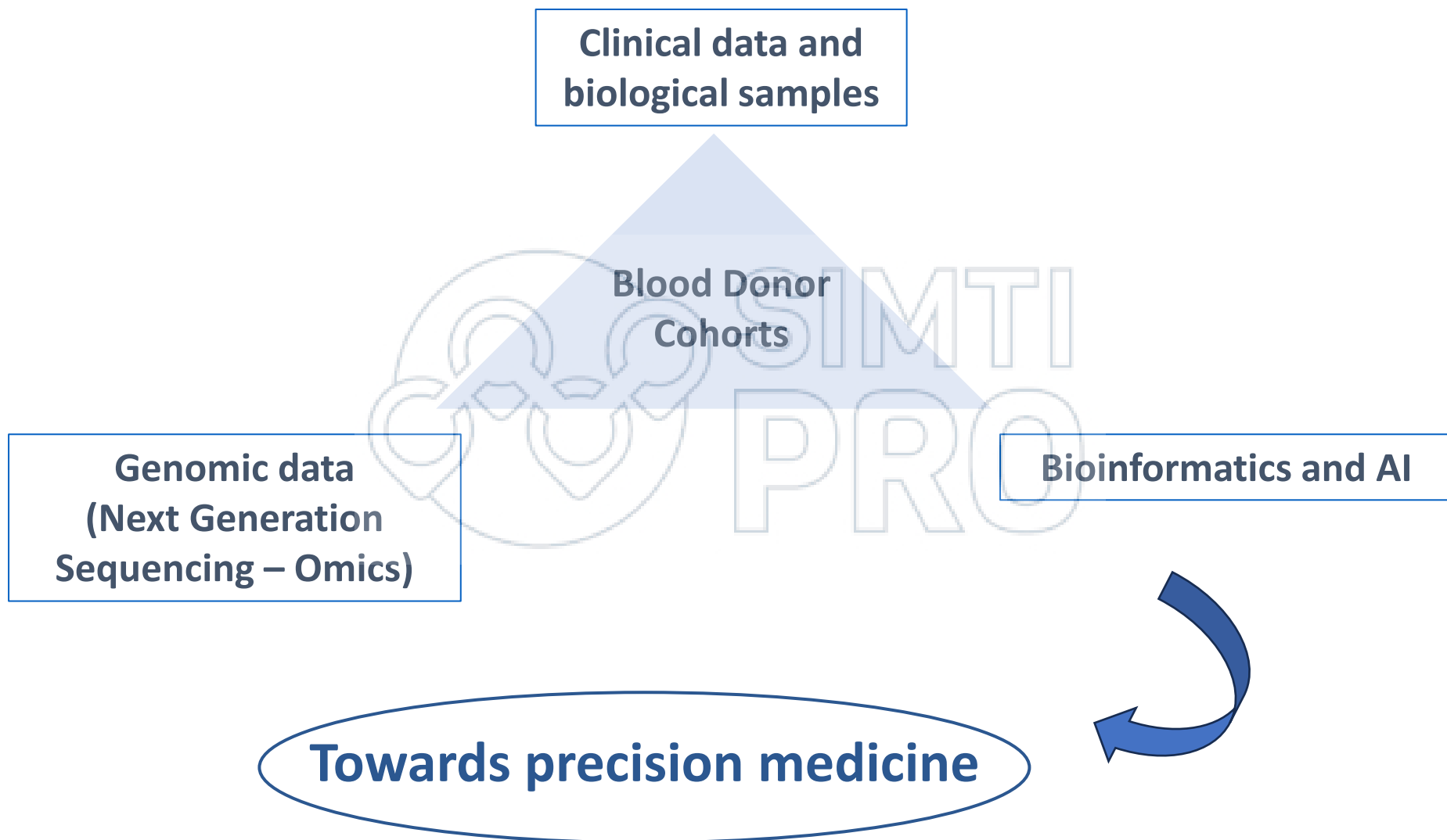
Blood group genotype matching for transfusion

Connie M Westhoff ¹, Aline Floch ^{2 3}

We are now evaluating the in-house application of
NGS for blood typing

ABS068, ABS076

New perspective in Transfusion Medicine



Acknowledgement

Daniele Prati
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SC Transfusion Medicine

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Head of Research
SS Biological Resources Center

Blood Donor Center

Rare Blood Bank

Precision Medicine Lab



SIMTI
PRO

