

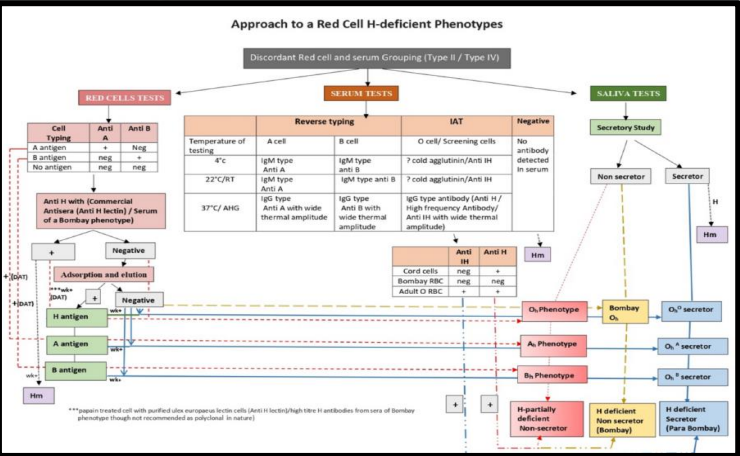
Rare Blood, Rarer Genes: Mumbai’s First Réunion Phenotype Blood Donor with a Novel FUT2 Mutation.

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Background & Objectives: The Réunion phenotype, an H-deficient blood group variant, arises due to mutations in the FUT1 and FUT2 genes, leading to partial absence of H antigen on RBCs and non-secretor status. This case highlights a 37-year-old male donor with a blood grouping discrepancy later identified as A_h (Réunion phenotype), stressing the role of molecular diagnostics in differentiating it from the Para-Bombay phenotype.

	H-deficient non-secretor (Bombay)	H-deficient secretor (Para Bombay)	H-partially deficient Non-Secretor (Réunion)
Secretory status	Non-secretor	Secretor (H,A,B)	Non-secretor
Adsorption and elution	Neg (H, A, B)	H (neg/+/wk+), A (neg/+/wk+), B (neg/+/wk+).	H (wk+)
Antibodies	Anti H	Anti IH	Anti H
Notations	O _h Indian	O _h ⁰ -secretor O _h ^A -secretor O _h ^B -secretor	A _h , B _h , AB _h



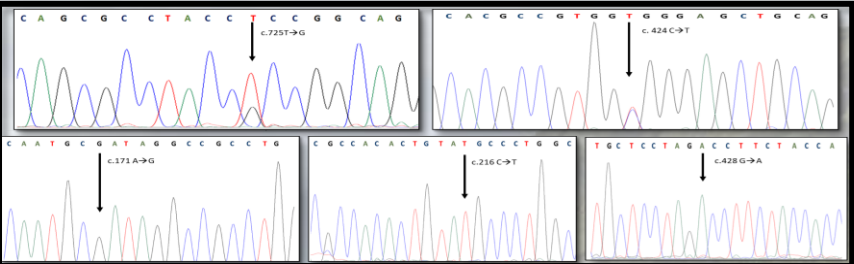
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MOLECULAR FINDINGS:

FUT1: FUT1*01N.09/FUT1*01W.23 (Weak H Ag on RBCs), FUT2: se^{171,216,428}/se^{171,216,428} (non-secretor), ABO: ABO*A1.01/ ABO*A1.01 (A Ag on RBCs)







You ask what is the use of classification, arrangement, systemization? I answer you: order and simplification are the first steps toward the mastery of a subject-the actual enemy is the unknown.
(Thomas Mann)

DISCUSSION	
Levine P. Vox Sang. 1961.	First A _h Case.
H.M. Bhatia. Vox Sanguinis 1962.	Incomplete expression of genes.
Gerard G. Am J Hum Genet 34:937-947, 1982	Reunion Island case series of 42 H-deficient phenotype individuals.
Le Pendu J. Am J Hum Genet. 1983.	Proposed to call this variant weak H phenotype as Réunion.
Fernandez-Mateos P, Cailleau A, Henry . Fernandez-Mateos P, Cailleau A, Henry S, et al. Vox Sang. 1998.	First study to elucidate Molecular Work-up of a Réunion case.
Dhiman Y. et al. Transfus Apher Sci. 2023	First Indian Réunion Study that addresses challenges with classification of Para Bombay and Réunion Phenotypes.

Conclusion: This case highlights the importance of integrating molecular diagnostics with serology to accurately classify the Réunion phenotype, thereby ensuring precise blood group identification and safe transfusion practices.