The are c, c; d. d and e.e.

The Three Rh Factors: Wiener’s Notations: At first it was thought that Rh factor was inherited as a simple Mendelian pair, Rh and rh, Rh being dominant to rh, and that there were three genotypes like RhRh, Rhrh (Rh-positive) and (Rh-negative). But now it is known that there are three Rh factors like Rho, rh’, rh”, of which the original Rh O is the most powerful and is also clinically very significant. These three antigens have antigens have three theoretically possible contrasting factors, which have been designed as HrO hr’ and hr”. This Rh-Hr system of naming blood factors, however, is based upon an assumption; it has not yet been demonstrated. These three antigens determine eight agglutino gens, designated as R0, R1, R2, Rz, r, r’, r” and ry. These three elementary factors and antigens may occur singly and combined, and accordingly eight phenotypes are distinguishable.

These are: Rh0, rh’, rh”, Rh0rh’ (or Rh,) Rh0 rh” (or Rh2), rh’ rh”(or Rhy), Rh, R2 (or Rhz) and rh. To make the symbols simple, now h in each designation is not used. Accordingly these eight phenotypes may be written as; Fisher’s Notations: Again, according to Fisher, the Rah types are determined by a series of three pairs of alleles. His notation for these three pairs are C, c; D. d and E. e. C acts as an auto some dominant to c, Doted and E to c.

These genes are inherited in groups of three located on a single chromosome. That means one inherits the combination CDE, Cde, cDe and the like. Short Notations of Wiener and Fisher: The eight phenotypes according to the short notation of Wiener and that of Fisher are as follows. Long Notations of Wiener and Fishers: In the following table eight phenotypes in abbreviated symbols with their twenty-one genotypes according to the notation of Wiener and that of Fisher have been shown

separately. Occurrence of Rh Factors in Racial Groups: The occurrences of Rh-positive and Rh-negative factors in different populations have racial significance. Among the Mongoloids Rh-negative is very rare. It occurs in 0.

5 to 1. 5%. But among the whites its frequency is comparatively very high, being 15%. On the other hand among Negroes Rh negative factor occurs in 5 to 8% of the population.

Rh Factors and Diseases: A severe hemolytic disease known as erythroblast sis fetal is, condition apparent at birth may occur because of Rh incompatibility. This may happen when a Rh-negative mother carries a Rh-positive fetus by her marriage with a Rh-positive male. The Rh antigen from the Rh-positive fetus may penetrate the placenta to enter into the blood of the mother, and thereby cause production of an antibody. As the Rh-negative mother does contain the antigen, this antibody cannot do any harm to the blood cells of the mother.

But when this antibody makes its way through the placenta to the Rh-positive fetus, reaction takes place resulting in erythroblast sis fetal is.