



AlopeciaGENE®

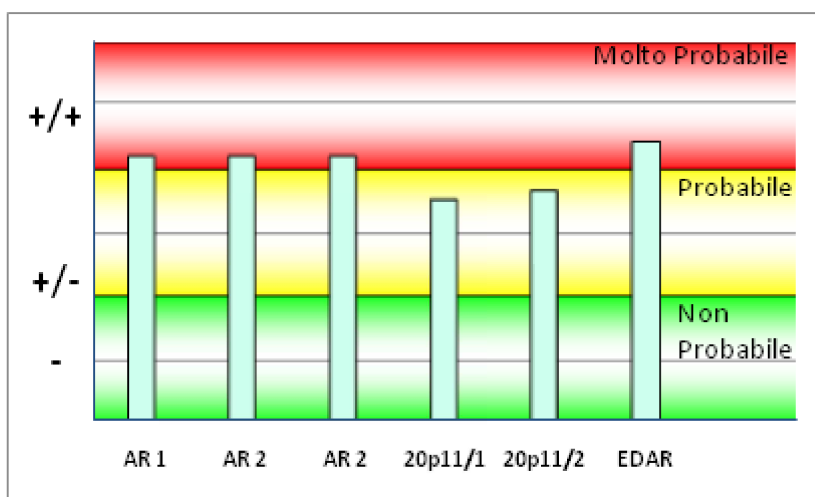
Date: 05/02/08

www.alopeciagene.it

AlopeciaGENE® is a test to examine genetic variation in the genes coding for the androgen receptor (AR), ectodysplasin A (EDAR) and in a region of chromosome 20 that is strongly linked to male pattern baldness according to recent genome wide research. Many published studies conducted on thousands of people have shown that these genes are associated with baldness and that the genetic screening can help to identify individuals who have a greater or lesser probability of premature hair loss.

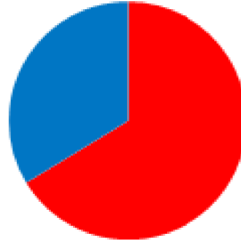
RESULT: - Probable

Gene	Your version	Effect
AR SNP1	G	+
AR SNP2	T	+
AR SNP3	A	+
EDAR	T	+
20p11 SNP1	G / A	+/-
20P11 SNP2	T / C	+/-



Your genotype is associated with an **increased** risk of premature male pattern baldness and it is estimated that **66% of males** with your gene profile will show significant hair loss by 50 years of age – see also the table below

	Average risk	Your risk
30 yrs	30%	40%
50 yrs	50%	66%
70 yrs	80%	99%



30 yrs	50 yrs	70 yrs
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Table 1: In red is the percentage of males with your genotype that will show significant hair loss at the respective ages

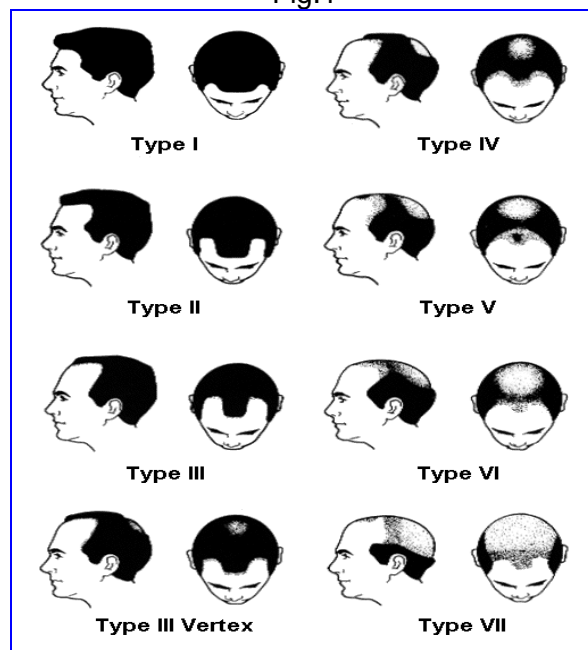
Androgenic alopecia (AGA), or common hair loss, is a benign physiological condition that is the result of variety of genetic and environmental factors. This condition is also commonly known as male pattern baldness. Hair is lost in a well-defined pattern, beginning above both temples. Over time, the hairline recedes to form a characteristic "M" shape. Hair also thins at the crown of the head. Often a rim of hair around the sides and rear of the head is left, or the condition may progress to complete baldness. It progressively modifies the esthetic appearance with possible psychological repercussions which can have a negative effect on personality and relationships. In order for the development of male pattern baldness two factors are necessary:

The presence of androgenic hormones (male hormones e.g., testosterone): "**Andro**"

A genetic predisposition: "**genic**"

The prevalence of male pattern baldness in Europe is approximately 60% - that is, about 60% of males will have significant hair loss by the age of 60 years (hair loss of type V-VII, see fig. 1).

Fig.1



The **Hamilton Scale** divides baldness into VII grades – grades I & II are normal, up to grade VII which represents severe baldness

Androgenic alopecia is the most common cause of hair loss and it will affect about **80% of males** and **50% of females** at some stage during the course of their life

The frequency of baldness increases with age: about 30% of 30 year olds will show significant hair loss, 50% of 50 yr olds, and by 70 years about 80% will be affected. Also in women it is more common after the menopause – however in the last 10 years there has also been an increase in hair loss amongst younger women.

Genetic predisposition: this determines the sensitivity of the hair follicles to male hormones and therefore influences the age of onset and the severity of hair loss. Several genes are involved in this polygenic condition and not all the those that predispose to baldness have been discovered – but some important contributing genes have been characterised. The more "risk" versions of these genes that a person possesses, the higher is the possibility to show

premature hair loss. The “baldness genes” are inherited from both parents and the situation is likely to be more severe in cases where both the father and the mother are affected by hair loss. Recent studies that maternal heredity may be more important than paternal – in fact several loci of genetic variation are present on the X chromosome (including the androgen receptor) and this chromosome is always passed to the male from the mother

Family history is also important in order to predict how rapid hair loss will be in an individual – if many members of the same family are affected then the process of hair loss is likely to be more rapid.

As well as genes and family history, lifestyle factors can be important - the onset of baldness can be stimulated and/or accelerated by stressful situations that can have the consequence of increased hair loss. It has been seen for example that identical twins sometimes show different rates and severity of hair loss.

Currently the only effective treatment for male pattern baldness is prevention. Taking all factors into consideration your dermatologist will be able to advise you on the best strategy to prevent or delay the onset of hair loss.