

Methods and Compositions for Correlating CCR5 Expression with Essential Hypertension

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Technology description

Summary

Hypertension is a disease which afflicts as many as 1 in 5 persons in the United States and is the most common cause of visits to physicians. Once diagnosed with hypertension, treatment of the disease is lifelong. There is mounting evidence that lifestyle changes can prevent the usual rise in blood pressure with age, but for patients whose hypertension cannot be adequately treated by lifestyle changes, drug therapy must be instigated which can be difficult to control and have adverse side affects. The present invention demonstrates that there is a link between a naturally occurring mutation in the CC-chemokine receptor 5 (CCR5) gene and an increased risk of developing hypertension. This technology will allow for the screening of individuals for the presence of the CCR5-D32/D32 genotype which correlates with an increased risk of developing hypertension and possibly prevent its occurrence through adequate antihypertensive therapy.

This technology may lead to a method of treating or preventing hypertension through the administration of: 1) an effective amount of a CCR5 expression enhancing agent; 2) CCR5 activity enhancing agent; 3) an effective amount of CCR5; or 4) an effective amount of a nucleic acid encoding CCR5. Also, this technology can be employed as a method of identifying an agent that could be used to treat or prevent hypertension through the above-identified processes.

Institution

NIH - National Institutes of Health

联系我们



叶先生

电话: 021-65679356 手机: 13414935137 邮箱: yeyingsheng@zf-ym.com