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**Department**

Pharmacology and Cancer Biology

## Human A1 adrenergic receptor genes

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### Value Proposition

Alpha 1-Adrenergic receptors (alpha 1ARs) are virtually ubiquitous in human tissues and play roles in several important physiological functions such as smooth muscle contraction, glycogenolysis, and myocardial inotropy. Alpha blockers in current clinical use bind to these receptors in vascular smooth muscle and cause vasodilation and are used to treat benign prostatic hyperplasia (BPH), hypertension and post-traumatic stress disorder. Although these blockers target alpha-1 with no or only alpha-1A specificity, Alpha-1 AR subtypes show different patterns of activity and tissue distribution selectivity and could play very different roles in a variety of disease etiologies. Thus, Alpha-1 ARE subtype selective drugs could be highly useful clinically.

### Technology

This invention is cDNAs encoding three human alpha-1 adrenergic receptor (AR) subtypes, alpha1A, alpha1B and alpha1C.

### Advantages

- The pharmacologic properties of the expressed receptor proteins of these cDNAs have been characterized

