Docket #: S97-238

Alpha 2c Adrenergic Receptor Gene Disruption Mouse (A2cARGDM) - JAX Stock numbers 003557 and 002512

S97-236- Alpha 2a Adrenergic Receptor Gene Disruption Mouse (A2aARGDM)
S97-237- Alpha 2b Adrenergic Receptor Gene Disruption Mouse (A2bARGDM)
S97-238- Alpha 2c Adrenergic Receptor Gene Disruption Mouse (A2cARGDM)

The Adrenergic Receptor Gene Disruption Mice help to facilitate the study of alpha 2 adrenergic receptor physiology and provide an animal model for testing new drugs (activators or agonists, and inhibitors or antagonists) which act on alpha 2 adrenergic receptor subtypes.

The Alpha 2c Adrenergic Receptor Over-Expressing Mouse expresses 2 to 4 times the normal number of alpha 2c adrenergic receptors. This over-expression mimics selective stimulation of this subtype. These mice complement the A2cARGDM in studying alpha 2c receptor physiology.

Possible physiological functions mediated by the receptors include:
1) regulation of blood pressure and regional blood flow
2) regulation of carbohydrate and fat metabolism
3) regulation of fluid and electrolyte balance
4) activation of platelet aggregation
5) anesthesia and analgesia

It is not know which of the three alpha 2 receptor subtypes regulate the different physiological functions.

Alpha 2 receptor agonists are used to treat hypertension, have been shown to act as analgesics and general anesthetics and can decrease seizure susceptibility in animal models of epilepsy.

These mice will be useful in determining the functions mediated by each alpha 2 subtype.

For additional technical information, feel free to view the article in Nature Magazine, , 11 November 1999, pgs 181-184 at http://www.nature.com/server-java/Propub/nature/402181A0.frameset?context=search

For more information about Dr. Kobilka's research, click http://www-med3.stanford.edu/frd/frd.lasso?-database=bluebook2.fmp&-layout=profile&-response=profile.lasso&-recid=32971&-search.

For more information about Dr. Barsh's research, click click http://www-med3.stanford.edu/frd/frd.lasso?-database=bluebook2.fmp&-layout=profile&-response=profile.lasso&-recid=33438&-search.

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