

CLAIMS

1. ~~A method of treatment to improve memory and/or cognition in a subject, comprising administering to the subject a therapeutically effective amount of a T-type calcium channel antagonist.~~
2. ~~The method of claim 1, wherein the treatment improves cognition in the subject.~~
3. ~~The method of claim 1 or 2, wherein the treatment improves memory in the subject.~~
4. ~~The method of any one of claims 1 to 3, wherein the treatment is for a cognitive disorder.~~
5. ~~The method of any one of claims 1 to 4, wherein the treatment is for a memory disorder.~~
1. Use of a T-type calcium channel antagonist in the manufacture of a medicament for the treatment of a cognitive disorder or a memory disorder in a subject, wherein a therapeutically effective amount of the T-type calcium channel antagonist is to be administered to the subject to improve memory and/or cognition in the subject.
62. The method use of any one of claims 1 to 5 claim 1, wherein the treatment is for a condition selected from the group consisting of age-related cognitive impairment, agnosia, amnesia, amnesic disorder, amyotrophic lateral sclerosis, Angelman Syndrome, Asperger's syndrome, attention-deficit disorders, attention-deficit/hyperactivity disorders (ADHD), autism, cerebral amyloid angiopathy, cognitive dysfunction, cognitive impairment due to alcohol or drugs, delirium, dementia, AIDS-related dementia, alcoholic dementia, Alzheimer's disease, dementia associated with cerebral trauma, Creutzfeldt-Jakob disease and other prion-induced dementia, degenerative dementia, Huntington's disease, dementia associated with intracranial tumors, Lewy body disease, multi-infarct dementia, Parkinson's disease; Parkinsonian-ALS demential complex, Pick's disease, substance-induced persisting dementia, vascular dementia, Dravet Syndrome, head trauma, ischemia, learning disorders, learning impairment, memory impairment, memory loss, mental retardation, mild cognitive impairment, post-traumatic stress

disorder, Prader-Willi Syndrome, progressive supranuclear palsy, stroke, traumatic brain injury, trisomy (including Trisomy 21 (Down Syndrome)), and Wernicke-Korsakoff's Syndrome.

- ~~73.~~ The ~~method-use of any one of claims 1 to 5~~ claim 1, wherein the treatment is for a disorder that has an effect on cognitive and/or memory functions.
- ~~84.~~ The ~~method-use of claim 73~~, wherein the disorder that has an effect on cognitive and/or memory functions is selected from anxiety disorders, mood disorders and psychotic disorders.
- ~~95.~~ The ~~method-use of any one of claims 1 to 84~~, wherein the T-type calcium channel antagonist is a calcium channel antagonist that selectively targets T-type calcium channels.
- ~~106.~~ The ~~method-use of any one of claims 1 to 95~~, wherein the T-type calcium channel antagonist is a calcium channel antagonist that selectively targets T-type calcium channels over L-type calcium channels.
- ~~117.~~ The ~~method-use of any one of claims 1 to 106~~, wherein the T-type calcium channel antagonist is a small molecule.
- ~~128.~~ The ~~method-use of any one of claims 1 to 117~~, wherein the T-type calcium channel antagonist is an antibody.
9. The use of any one of claims 1 to 7, wherein the T-type calcium channel antagonist is a siRNA.
- ~~1310.~~ The ~~method-use of any one of claims 1 to 129~~, wherein the T-type calcium channel antagonist selectively targets Cav3.1.
- ~~1411.~~ The ~~method-use of any one of claims 1 to 1310~~, wherein the T-type calcium channel antagonist selectively targets Cav3.2.

- ~~1512~~. The ~~method-use~~ of any one of claims 1 to ~~1310~~, wherein the T-type calcium channel antagonist selectively targets Cav3.3.
- ~~1613~~. The ~~method-use~~ of any one of claims 1 to ~~1512~~, wherein the T-type calcium channel antagonists antagonize a T-type calcium channel in a cell when the membrane potential of the cell is in the range from about -60 mV to about -30 mV, *e.g.*, about -40 mV.
- ~~1714~~. The ~~method-use~~ of any one of claims 1 to ~~1613~~, wherein said T-type calcium channel antagonist is selected from the group consisting of mibefradil, MK-8998, diltiazem, nifedipine, nitrendipine, nimodipine, niludipine, niguldipine, nicardipine, nisoldipine, amlodipine, felodipine, isradipine, ryosidine, gallopamil, verapamil, tiapamil, pimozide, thioridazine, NNC 55-0396, TTL-1177, anandamide, pimozide, penfluridol, clopimozide, fluspirilene, haloperidol, droperidol, benperidol, triperidol, melperone, lenperone, azaperone, domperidone, antrafenine, aripiprazole, ciprofloxacin, dapiprazole, dropropizine, etoperidone, itraconazole, ketoconazole, levodropropizine, mepiprazole, naftopidil, nefazodone, niaprazine, oxypertine, posaconazole, trazodone, urpidil, vesnarinone, manidipine, nilvadipine, benidipine, efonidipine, flunarizine, anandamide, lomerizine, zonisamide, U-92032, tetralol, mibefradil, NNC 55-0396, TTA-A2, TTA-A8, TTA-P1, 4-aminomethyl-4-fluoropiperidine (TTA-P2), TTA-Q3, TTA-Q6, MK-5395, MK-6526, MK-8998, Z941, Z944, phensuximide, mesuximide, desmethylnmethsuximide, efonidipine, trimethadione, dimethadione, ABT-639, TTL-1177, KYSO5044, nickel, and kurtoxin, and combinations thereof.
- ~~1815~~. The ~~method-use~~ of any one of claims 1 to ~~1714~~, wherein the T-type calcium channel antagonist is TTA-A2.
- ~~1916~~. The ~~method-use~~ of any one of claims 1 to ~~1815~~, wherein said T-type calcium channel antagonist substantially crosses the blood brain barrier.
- ~~2017~~. The ~~method-use~~ of any one of claims 1 to ~~1916~~, ~~further comprising administering to the subject wherein~~ an additional therapeutic agent is to be administered to the subject.

2118. The ~~method~~use of claim 2017, wherein the additional therapeutic agent is an additional T-type calcium channel inhibitor.