Cognitive Vitality Reports® are reports written by neuroscientists at the Alzheimer's Drug Discovery Foundation (ADDF). These scientific reports include analysis of drugs, drugs-in-development, drug targets, supplements, nutraceuticals, food/drink, non-pharmacologic interventions, and risk factors. Neuroscientists evaluate the potential benefit (or harm) for brain health, as well as for age-related health concerns that can affect brain health (e.g., cardiovascular diseases, cancers, diabetes/metabolic syndrome). In addition, these reports include evaluation of safety data, from clinical trials if available, and from preclinical models.

Tertomotide (GV1001)

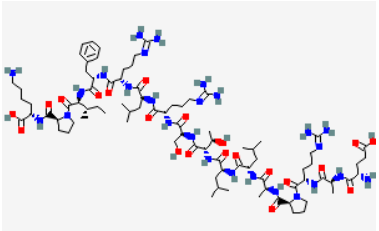
Evidence Summary

GV1001 showed benefits in cognitive function in moderate to severe AD in a phase 2 trial. A phase 3 trial is ongoing. Efficacy of GV1001 combined with chemotherapy has been mixed in various cancers.

Neuroprotective Benefit: A phase 2 trial in moderate to severe Alzheimer's disease has suggested potential benefits in language. A phase 3 trial in Alzheimer's disease is ongoing.

Aging and related health concerns: GV1001 combined with chemotherapy has been tested in various cancers, but the results have been mixed or inconclusive. Preclinical studies suggest benefit in hearing loss and arthritis.

Safety: Adverse event rates of GV1001 monotherapy were similar to placebo. Clinical trials in cancer populations have combined GV1001 with chemotherapy, which have led to adverse events including neutropenia, anemia, thrombocytopenia, and others.

Availability: not available; in clinical development	**Dose**: The most commonly tested dose of GV1001 has been 0.56 mg, s.c., 1-3 times per week in the beginning, then frequency lowered to every 2 or 4 weeks.	**Chemical formula:** $C_{85}H_{146}N_{26}O_{21}$ **MW**: 1868.2  Source: PubChem
Half-life: in vivo half-life of ~30 minutes; terminal half-life is not documented	**BBB**: penetrant in mice	
Clinical trials: A phase 3 trial of GV1001/finasteride enrolled 423 patients with benign prostatic hyperplasia.	**Observational studies**: N/A	

What is it?

Tertomotide (also known as GV1001) is a synthetic peptide vaccine, containing 16 amino acid residues (611-626) of the catalytic site of human telomerase reverse transcriptase (hTERT). Telomerase is seldomly expressed in normal cells but is overexpressed in aberrant cells. The proposed mechanism of this vaccine is that it activates the immune system such that it recognizes and kills abnormal cells such as cancer cells that overexpress telomerase.

After mixed results in cancer clinical trials, developers of GV1001 (GemVax & KAEL) discovered potential neuroprotective benefits of GV1001 and pursued neurodegenerative disease indications. Phase 2 and 3 trials are testing the safety and efficacy of GV1001 in Alzheimer's patients (NCT05189210; NCT05303701). GV1001 is also being tested in clinical trials in progressive supranuclear palsy (NCT06235775), amyotrophic lateral sclerosis, multiple sclerosis, and Parkinson's disease (GemVax & KAEL pipeline). In May 2025, GV1001 received FDA Orphan Drug Designation and Fast Track Designation for progressive supranuclear palsy (GemVax & KAEL press release from May 2, 2025; press release from May 7, 2025).

Neuroprotective Benefit: A phase 2 trial in moderate to severe Alzheimer's disease has suggested potential benefits in language. A phase 3 trial in Alzheimer's disease is ongoing.

Types of evidence:

- 1 phase 2 trial in moderate to severe Alzheimer's disease
- Numerous laboratory studies

Human research to suggest prevention of dementia, prevention of decline, or improved cognitive function:

No studies have tested GV1001 for the prevention of dementia or age-related cognitive decline in humans.

Human research to suggest benefits to patients with dementia:

In a phase 2 double-blind randomized controlled trial of 96 South Korean patients with moderate to severe Alzheimer's disease, higher dose GV1001 treatment (1.12 mg, subcutaneously, once weekly for the first 4 weeks, then biweekly) for 24 weeks showed less decline in the primary endpoint, Severe Impairment Battery (SIB) score, compared with the placebo (Koh et al., 2021). There were no significant effects in SIB score with the lower dose GV1001 treatment (0.56 mg). The higher dose GV1001 treatment also showed significantly better improvement in the Neuropsychiatric Inventory (NPI), a secondary endpoint, compared to the placebo group. Other secondary endpoints, including ADSC-ADL and CDR-SB, showed numerically better scores with GV1001 treatment, but these differences were not statistically significant. One limitation of this study is that the participants did not have biomarker confirmation of Alzheimer's disease, as the study was initiated prior to 2018. It is possible that some enrolled patients did not have dementia due to Alzheimer's disease.

A posthoc analysis of the phase 2 trial described above evaluated the effects of GV1001 on the SIB subscales (Kwon et al., 2023). SIB has 9 subscales: social interaction, memory, orientation, language, attention, praxis, visuospatial ability, construction, and orientation to name. The higher dose GV1001 (1.12 mg) treatment showed a significant benefit on language function at 24 weeks compared to placebo (p=0.017). At 12 weeks, the GV1001 group showed significantly better memory (change from baseline) compared to placebo (p=0.037).

Mechanisms of action for neuroprotection identified from laboratory and clinical research:

In mice, GV1001 crosses the blood-brain barrier, as demonstrated by MRI imaging of ferrocenecarboxylic acid-conjugated GV1001 in the brain (Park et al., 2024).

In a mouse model of Alzheimer's disease (old 3xTg-AD mice), long-term GV1001 treatment (1 mg/kg, s.c., 3 times/week) significantly increased their survival (p=0.009), decreased Aβ42, β-secretase (BACE), and p-tau levels (ptauS202, T205), restored hippocampal volume, and reduced markers of senescence (reduced SA-β Gal-positive cells, increased telomerase activity and telomere length, reduced intracellular p53, p16Ink4a, IL-6, and HMGB1) in the hippocampus (Park et al., 2024).

In middle- and old-aged 3xTg-AD mice, GV1001 treatment (0.01 or 1 mg/kg, s.c., 3 times/week) for 2 months significantly improved memory and cognition, measured by the Morris water maze, the Y-maze, and the passive avoidance test. GV1001 treatment also reducd Aβ oligomers, ptau (Ser202 and Thr205) levels, and neuroinflammation (e.g., decreased GFAP, IL-1β)(Park et al., 2024). In cell culture studies, GV1001 bound to gonadotropin releasing hormone receptors (GnRHRs) with high affinity and the protective effects of GV1001 against Aβ were inhibited by GnRHR blockage (degarelix or siRNA).

In rat neural stem cell culture, GV1001 treatment protected against $A\beta_{25-35}$ oligomer-induced toxicity in a concentration-dependent manner (Park et al., 2014). GV1001 treatment restored viability, proliferation, and mobilization while reducing free radical levels included by $A\beta_{25-35}$. GV1001 treatment also increased the expression of mitochondria-associated survival proteins and decreased mitochondria-associated death proteins.

In a rat model of stroke (focal cerebral ischemia-reperfusion injury induced by middle cerebral artery occlusion), GV1001 treatment (60 μM/kg, s.c., immediately before reperfusion) significantly decreased the lesion volume and restored neurological functions, measured by the rotarod test, modified adhesion removal, and beam balance test, compared to saline treatment (Kwon et al., 2021). In neural stem cell culture exposed to oxygen-glucose deprivation/reoxygenation, GV1001 treatment increased the viability, proliferation, and migration. These neuroprotective effects were mediated through cellular proliferation, mitochondrial stabilization, anti-apoptotic/neuroprotective signaling (increased pAkt, pGSK-3β, pERK1/2, and Bcl-2, and decreased cleaved caspase-3, cleaved caspase-9, Bax), and antioxidant effects.

Porphyromonos gingivalis is an oral bacterium responsible for periodontitis and is also associated with other systemic disorders, including atherosclerosis and Alzheimer's disease. In APOE-deficient mice inoculated with *Porphyromonos gingivalis* in the gingival pockets of the molars, GV1001 pretreatment (2 mg/kg, s.c., 3 times per week) mitigated the development of periodontal disease, atherosclerosis, and Alzheimer's-like conditions by counteracting local and systemic inflammation (Chen et al., 2024). GV1001 pretreatment inhibited the accumulation of *P. gingivalis* DNA aggregates and gingipains in the gingival tissue, arterial wall, and brain, and reversed the increase in IL-1β, TNF-α, and IL-6. GV1001 treatment decreased the *P. gingivalis*-induced increase in Aβ42 and ptau aggregates in the cerebral cortex and hippocampus. GV1001 also attenuated the development of atherosclerosis by inhibiting vascular inflammation, lowering serum total cholesterol and LDL-cholesterol, and decreasing lipid deposition in the arterial wall.

APOE4 interactions: No studies have reported whether GV1001 has differential effects based on APOE genotype.

Aging and related health concerns: GV1001 combined with chemotherapy has been tested in various cancers, but the results have been mixed or inconclusive. Preclinical studies suggest benefit in hearing loss and arthritis.

Types of evidence:

- 3 phase III trials, 2 phase II trials
- Numerous laboratory studies

Pancreatic cancer: COMBO THERAPY INCREASED SURVIVAL IN PEOPLE WITH HIGH EOTAXIN
In a phase 3 randomized open-label trial (TeloVac trial) of 1062 patients with locally advanced or metastatic pancreatic cancer, median overall survival was not significantly different between the group that received chemotherapy (gemcitabine/capecitabine) alone, the group that received chemotherapy with sequential GV1001 (2 cycles of chemotherapy, then GM-CSF and GV1001), or the group that received chemotherapy with concurrent GV1001 with GM-CSF as an adjuvant (Middleton et al., 2014).

In a different phase 3 open-label trial, the efficacy of GV1001 combined with gemcitabine/capecitabine was tested in 148 previously untreated patients with advanced pancreatic ductal adenocarcinoma who had high serum eotaxin levels (Jo et al., 2024). This study showed that GV1001 combined with gemcitabine/capecitabine showed improved median overall survival of 11.3 months compared to 7.5

months for gemcitabine/capecitabine alone (p=0.021). Time to progression was also significantly longer for GV1001 + gemcitabine/capecitabine than chemotherapy alone (7.3 months vs 4.5 months, p=0.021). There were no significant differences between the two groups for objective response rate or disease control rate.

Benign prostatic hyperplasia: IMPROVEMENT IN SOME OUTCOMES
In a phase 2 randomized controlled trial of 161 patients with benign prostatic hyperplasia, GV1001 treatment (0.4 mg every 2 weeks, 0.56 mg every 2 weeks; intradermal injections) for 12 weeks resulted in a significantly better change from baseline in the International Prostate Symptom Score (IPSS) compared to the placebo group (Moon et al., 2018). Although numeric improvements in IPSS were seen in a group that received longer-interval GV1001 treatment (0.56 mg every 4 weeks), the change was not statistically significant. GV1001 treatment (all dosing regimens) resulted in a statistically significant reduction in prostate gland volume at week 16 compared to the placebo group. There were no statistically significant differences found in other secondary outcome measures, including change from baseline in maximum urinary flow rate, post-void residual urine volume, erectile function, PSA level, testosterone level, and dihydrotestosterone level. The authors speculate that the mechanism of action of GV1001 in benign prostatic hyperplasia may be through inhibition of GnRH and 5α-reductase.

In a phase 3 randomized controlled trial of 423 patients with benign prostatic hyperplasia, GV1001 treatment (0.56 mg or 1.12 mg) every 2 weeks for 22 weeks significantly decreased the IPSS score and increased the maximum urinary flow rate, overall improving lower urinary tract symptoms (Shin et al., 2025). Significant improvements in the IPSS score and maximum urinary flow rate was also observed in the control group receiving finasteride (5 mg), a 5α-reductase inhibitor. Reduction in prostate volume was observed in the higher-dose GV1001 (1.12 mg) group and the finasteride group. The finasteride group showed significantly decreased International Index of Erectile Function (IIEF; higher score is better), while no significant effects in this index were seen with GV1001 treatment. Given that GV1001 treatment also did not significantly affect testosterone or dihydrotestosterone levels, GV1001 may be a promising option in patients concerned about sexual function-related side effects of finasteride. No significant differences were observed in the residual urine volume.

Breast cancer: INCONCLUSIVE
Telomerase activation occurs in approximately 95% of breast cancer cases. In a retrospective analysis of 63 patients with stage IV heavily treated metastatic breast cancer, combination treatment with GV1001 (0.56 mg, intradermal injection) and cytotoxic chemotherapy resulted in disease control rate and overall response rate of 58.8% and 26.4%, respectively in hormone receptor-positive cancer patients; 66.6%

and 28.5%, respectively, in HER-2-positive cancer patients; and 50% and 25%, respectively, in triple-negative breast cancer (Kim et al., 2023). One cycle of GV1001 treatment included 12 doses, administered 3 times during the first week, then once a week for weeks 2, 3, 4, and 6, then every 4 weeks for 6 months. A total of 39 patients (62%) were treated with only 1 cycle of GV1001 and 24 patients (38%) were treated more than 2 cycles of GV1001.The median progression free survival was 10.4, 8.7, and 5.6 months in hormone-receptor-positive, HER-2-positive, triple-negative breast cancer, respectively. The overall survival was 19.7, 13.2, and 9.4 months for patients with hormone-receptor-positive, HER-2-positive, triple-negative breast cancer, respectively. The overall health condition and quality of life (measured by EORTC QLQ-C30) showed a significant increase after receiving GV1001 treatment compared to pretreatment ($p<0.05$). After GV1001 treatment, the physical ($p<0.05$) and emotional ($p<0.05$) functions were significantly higher than their values before treatment in the functional area, while the role, cognitive, and social functions did not show any significant changes from pretreatment. Of individual symptoms, fatigue was significantly lower after GV1001 treatment than before treatment ($p<0.05$). Other symptoms (nausea/vomiting, dyspnea, sleep disturbance, appetite, constipation, diarrhea, financial impact, mobility) were not statistically different from pre- versus post-treatment. Limitations of this study includes the lack of control group and the small number of patients enrolled.

Colorectal cancer: INCONCLUSIVE
In a phase 2, single-arm, non-randomized trial enrolling 56 patients with recurrent or metastatic colorectal cancer who had failed first-line chemotherapy, combination therapy with GV1001 and chemotherapy resulted in a disease control rate and objective response rate of 90.9% and 34.1%, respectively (Kim et al., 2022). One patient exhibited a complete response (2.3%). The median progression-free survival was 7.1 months and the median overall survival was 12.8 months. Baseline eotaxin level was not associated with any efficacy outcome. Antigen-specific T-cell proliferation was observed in only 28% of patients (7 out of 25). Given the lack of a control group in this study, it is not clear how much the addition of GV1001 to chemotherapy affected these outcomes.

Hearing loss: POTENTIAL BENEFIT IN MOUSE MODELS
In a mouse model of hearing loss induced by noise, a single GV1001 treatment (10 mg/kg, s.c.) immediately after cessation of noise exposure led to significantly less shift in hearing threshold over 2 weeks and greater preservation of cochlear outer hair cells and ribbon synapses compared with controls (Lee et al., 2020). GV1001 treatment also markedly attenuated oxidative stress (decreased ROS and RNS) in outer hair cells.

In a different mouse model of hearing loss (kanamycin-induced ototoxicity), GV1001 treatment (0.1, 1, 10, or 100 mg/kg, i.p., twice daily) for 7-14 days showed significant hearing and hair cell preservation compared to saline treatment (Kim et al., 2018).

Arthritis: POTENTIAL BENEFIT IN A MOUSE MODEL
In a mouse model of arthritis (induced by collagen), therapeutic GV1001 treatment, but not preventive GV1001 treatment, reduced the severity of joint inflammation (Choi et al., 2017). Therapeutic GV1001 treatment (1, 5, or 50 pmol/kg, intradermally, 6 times) was associated with a significantly smaller area under the curve for the overall clinical joint score over the 98-day observation period compared to vehicle treatment ($p<0.05$). GV1001 treatment also lowered IL-6 levels ($p<0.01$) and histological joint scores ($p<0.05$) compared to vehicle treatment. In vitro studies suggest that GV1001 treatment may ameliorate joint inflammation by modifying T cell reactions to the triggering autoantigen and by decreasing macrophage cytokine production. Mice with collagen-induced arthritis that were treated preventively with GV1001 did not show improved clinical joint scores compared to control mice, suggesting that GV1001 may not work in the absence of active T cell immune responses.

Safety: Adverse event rates of GV1001 monotherapy were similar to placebo. Clinical trials in cancer populations have combined GV1001 with chemotherapy, which have led to adverse events including neutropenia, anemia, thrombocytopenia, and others.

Types of evidence:

- 6 clinical trials
- 1 retrospective study
- Several laboratory studies

Clinical trial safety data from GV1001 monotherapy: In a phase 3 randomized controlled trial of 423 patients with benign prostatic hyperplasia, GV1001 treatment (0.56 mg or 1.12 mg) every 2 weeks for 22 weeks resulted in 3 men discontinuing the study who were receiving the 0.56 mg dose of GV1001 (Shin et al., 2025). Although the percentages of participants experiencing treatment-emergent adverse events were reported (18-28% depending on the group/dose), the types of adverse events were not reported. A total of 13 patients experienced a total of 14 serious treatment-emergent adverse events, 5.63% in the GV1001 0.56 mg dose group, 2.16% in the GV1001 1.12 mg dose group, and 1.43% in the group receiving finasteride (control).

In a phase 2 randomized controlled trial of 161 patients with benign prostatic hyperplasia, GV1001 treatment (0.4 mg every 2 weeks, 0.56 mg every 2 weeks, or 0.56 mg every 4 weeks, intradermal injections) for 12 weeks resulted in adverse event reporting that was similar across GV1001 groups and the placebo group (Moon et al., 2018). No treatment-emergent adverse events were considered to be related to GV1001. Most treatment-emergent adverse events were grade 1 (20.5%) and grade 2 (5.0%). Two patients had grade 3 treatment-emergent adverse events, a clavicle fracture in a patient receiving 0.56 mg GV1001 every 2 weeks and a dry eye in the control group, both of which were considered to not be treatment-related. No grade 4 events were reported. Most treatment-emergent adverse event system/organ classes were gastrointestinal (7.5%), infections and infestations (7.5%), and skin and subcutaneous tissue disorders (6.2%). The most frequently reported treatment-emergent adverse events included nasopharyngitis (3.7%) followed by toothache, urticaria, and headache (1.9% for each). There were no clinically significant abnormalities relating to vital signs and ECG. Some hematocrit percentage changes were observed after the study drug administration (in 4 patients), but the observed fluctuations were all within the normal range. No clinically significant abnormalities were observed in blood chemistry parameters in the 3 GV1001 treatment groups (while 2 patients in the control group had some mild abnormalities). With regards to urine analysis, clinically significant abnormalities were seen in 1 patient in the control group (abnormal urine glucose level at week 4; had a medical history of diabetes mellitus) and 1 patient receiving 0.56 mg GV1001 every 4 weeks (abnormal urine blood levels from weeks 8 to 16—CT imaging revealed a 3 mm renal stone). This was considered to 'probably not be related to the study drug'.

In a phase 2 double-blind randomized controlled trial of 96 South Korean patients with moderate to severe Alzheimer's disease, GV1001 treatment (0.56 mg or 1.12 mg, subcutaneously, once weekly for the first 4 weeks, then biweekly) for 24 weeks was well tolerated and adverse events, including treatment-emergent adverse events, were similar across the two doses of GV1001 and placebo groups (Koh et al., 2021). Two severe treatment-emergent adverse events occurred in the placebo group; 1 participant was hospitalized because of a fracture in one arm after sustaining a fall, and the other participant was incidentally diagnosed with stomach cancer. The number of dropouts was not significantly different across the 3 groups.

Clinical trial safety data from GV1001 combination therapy:
In a phase 3 randomized open-label trial (TeloVac trial) of 1062 patients with locally advanced or metastatic pancreatic cancer, chemotherapy with sequential or concurrent GV1001 resulted in adverse events typically associated with chemotherapy or the cancer itself, including neutropenia, fatigue, and pain (Middleton et al., 2014). Percentages of adverse event occurrences were comparable across

chemotherapy alone, chemotherapy with sequential GV1001, and chemotherapy with concurrent GV1001.

In a phase 3 open-label trial in 148 previously untreated patients with advanced pancreatic ductal adenocarcinoma who had high serum eotaxin levels, the combination of GV1001 with gemcitabine/capecitabine did not result in significant differences in the incidence of adverse events compared to gemcitabine/capecitabine alone (Jo et al., 2024). The most common adverse events that were grade 3 or higher were hematologic in nature. The GV1001+chemotherapy group and chemotherapy alone groups experienced neutropenia (57.3% and 50.8%, respectively), anemia (16% and 13.4%, respectively), thrombocytopenia (9.3% and 13.4%, respectively), and leukopenia (12.0% and 9.0%, respectively). Adverse events reported in clinical laboratory tests were mostly due to gemcitabine or capecitabine and were controllable after reduction and/or intermittent cessation of gemcitabine or capecitabine.

In a phase 2, single-arm, non-randomized trial enrolling 56 patients with recurrent or metastatic colorectal cancer who had failed first-line chemotherapy, combination therapy with GV1001 and chemotherapy resulted in adverse events including neutropenia (48.2%), nausea (26.8%), neuropathy (25.0%), stomatitis (21.4%), and diarrhea (21.4%) (Kim et al., 2022). The most common grade ≥ 3 adverse event was neutropenia (16.1%). Immune response analysis showed that no patient had positive delayed-type hypersensitivity.

In a retrospective analysis of 63 patients with stage IV heavily treated metastatic breast cancer, combination treatment with GV1001 (0.56 mg, intradermal injection) and cytotoxic chemotherapy was well tolerated (Kim et al., 2023). Twenty patients developed transient severe neutropenia (grade ≥ 3) and 23 patients had severe thrombocytopenia (grade ≥ 3), which was considered to be related to cytotoxic chemotherapy. No other grade 3/4 toxicities were associated with treatment. In most patients, grade 1–2 side effects were observed, which included nausea, vomiting, muscle pain, dizziness, or local skin reactions at the GV1001 injection site. Urticaria (grade ≤2) was observed in 6 patients.

Studies in animal models: In a mouse model of hearing loss (kanamycin-induced ototoxicity), GV1001 treatment (0.1 to up to 100 mg/kg, i.p.) for 7-14 days did not lead to ototoxicity or renal toxicity (Kim et al., 2018). GV1001 treatment did not have any detrimental effects on the inner ear or kidney—GV1001 treatment was protective against cochlear hair cell damage by kanamycin and preserved hearing.

Drug interactions: Drug interactions with GV1001 have not been documented.

Sources and dosing:

GV1001 is under development by GemVax & KAEL for the treatment of Alzheimer's disease, progressive supranuclear palsy amyotrophic lateral sclerosis, multiple sclerosis, and Parkinson's disease (GemVax & KAEL pipeline).

The most commonly tested dose of GV1001 has been 0.56 mg or 1.12 mg, s.c., 1-3 times per week in the beginning, then frequency lowered to every 2-4 weeks (Koh et al., 2021; Shin et al., 2025). Clinical trials in cancer have combined GV1001 treatment with chemotherapy.

Research underway:

There are 4 ongoing clinical trials testing GV1001, based on ClinicalTrials.gov.

A phase I trial is evaluating the safety, tolerability, and pharmacokinetic characteristics of GV1001 in 56 healthy subjects (NCT06625710). This study is a randomized double-blind placebo-controlled dose-escalation study of single and multiple administration of GV1001. The primary outcomes are safety, tolerability, and pharmacokinetic characteristics of GV1001. This study is scheduled to be completed in December 2025.

One phase 2 trial is enrolling 180 people with mild to moderate Alzheimer's disease to test subcutaneous GV1001for a duration of one year (NCT05189210). The primary outcome is change from baseline in ADAS-Cog11 at week 52. This study is scheduled to be completed in March 2026.

A double-blind randomized placebo-controlled phase 3 trial aims to enroll 750 patients with moderate to severe Alzheimer's disease to test subcutaneous GV1001 for a duration of 24 weeks, followed by 25 weeks of open-label phase (NCT05303701). The primary outcome is change from baseline in Severe Impairment Battery (SIB) score at 24 weeks and the Clinician Interview-Based Impression of Change-Plus (CIBIC-plus) score after 24 weeks of treatment. This phase 3 trial is not yet recruiting as of September 2025 and is scheduled to be completed in June 2028.

A 12-month extension study is exploring the long-term safety and efficacy of subcutaneous GV1001 (1.12 mg/day) in patients with progressive supranuclear palsy (NCT06235775) who completed the

randomized double-blind placebo-controlled phase 2 trial (NCT05819658). This study is scheduled to be completed in December 2025.

Search terms:

Pubmed, Google: tertomotide, GV1001

Websites visited for tertomotide, GV1001:

- Clinicaltrials.gov
- NIH RePORTER (0)
- DrugAge (0)
- Geroprotectors (0)
- Drugs.com (0)
- WebMD.com (0)
- PubChem
- DrugBank.ca
- Cafepharma (0)
- Pharmapro.com (0)