AVIADOBIO

DELIVERING THE FUTURE OF GENE THERAPY

ABOUT AVIADOBIO

We're on a mission to develop and deliver potentially transformative gene therapies for people living with devastating neurodegenerative diseases such as frontotemporal dementia (FTD) and amyotrophic lateral sclerosis (ALS). With our deep understanding of the brain and our suite of proprietary gene therapy platforms and delivery technologies, we are working relentlessly to overcome the challenges of delivering the right drug to the right place. Our innovative, neuroanatomy-led approach is designed to maximize the therapeutic potential of gene therapy to halt or potentially reverse neurodegenerative diseases.

OUR FOCUS

Targeted and precise drug delivery and dosing for maximal biodistribution to the brain and spinal cord with a favorable safety profile.

OUR PLATFORMS

Designing next-generation gene therapy constructs and delivery platforms optimised for delivery route, target tissue, safety, and treatment effect.

OUR TEAM

55+ team members co-located in the UK and US with extensive gene therapy development and commercialization experience.

OUR INVESTORS

Backed by highly experienced life sciences investors:

NEA · Monograph · F-PRIME · Johnson & Johnson Innovation · Dementia Discovery Fund · Advent Life Sciences · EQT · LifeArc

GENE THERAPY PIPELINE

DELIVERY PLATFORM	PRODUCT PLATFORM	INDICATION	DISCOVERY	PRECLINICAL	EARLY CLINICAL
Intrathalamic	Gene Supplementation	FTD-GRN			
		TDP43+ ALS			
Subpial	Gene Silencing	SOD1-ALS			
		TDP43+ ALS/FTD			
Intrathalamic +/- Subpial		C9orf72-ALS/FTD			

AVB-101 – AVIADOBIO'S INVESTIGATIONAL GENE THERAPY FOR FTD-GRN

- Adeno-associated virus (AAV) gene supplementation therapy for FTD patients with disease-causing mutations in the GRN gene.
- Designed as a one-time therapy to halt disease progression by delivering a functional copy of the GRN gene to restore progranulin levels in the brain.
- Granted orphan designation by the US FDA and European Commission.
- Delivered by an intrathalamic infusion for targeted biodistribution with the aim to limit the treatment to only the brain itself, where it is needed.
- Open-label Phase I/II study due to start in 2023.

WHAT IS FRONTOTEMPORAL DEMENTIA (FTD)?

A devastating form of early-onset dementia, FTD is characterized by a rapid decline in executive function, behavior and/or language,[1] and typically leads to death within seven to 13 years of symptom onset and three to 10 years from diagnosis.[2,3]

Most common form of dementia **UNDER THE AGE OF 60.**[4]

Estimated FTD prevalence at any one time of up to **4.6 CASES PER 1,000** of the population.[5]

Genetic FTD cases account for **ONE-THIRD TO ONE-HALF OF CASES** and is associated with autosomal dominant mutations in three genes, including the GRN (progranulin) gene.[6]

Approximately **11,000 PEOPLE IN THE US AND EU5 ARE LIVING WITH FTD-GRN,** and it's estimated that 2,000 new cases are confirmed annually.[1,7]

Currently there are no disease modifying treatments available for people with FTD.

WHAT IS AMYOTROPHIC LATERAL SCLEROSIS (ALS)?

A devastating multisystem neurodegenerative disease, ALS is primarily characterized by degeneration of both upper and lower motor neurons.[8] The disease leads to progressive motor decline, and generally people die from failure of respiratory muscles two–four years after disease onset.[9]

TWO FORMS OF ALS: SPORADIC AND FAMILIAL.[10]
Sporadic is more prevalent, accounting for around 90% of cases and occurs when the person diagnosed is the only member of the family with the disease.[10] Familial ALS accounts for 10% of cases and in this instance more than one family member has ALS.[10] Sporadic and familial ALS are clinically indistinguishable.[11]

Estimated global prevalence **4.1–8.4 PER 100,000 PEOPLE.**[12]

Average age at onset is **58–63 YEARS FOR SPORADIC ALS** and 40–60 years for familial ALS, with a peak incidence in those aged 70–79 years.[13]

Research shows variations in **40+ GENES ASSOCIATED WITH ALS.**[11] Globally, the most common include expansions of chromosome 9 open reading frame 72 (C9orf72) and variants in superoxide dismutase 1 (SOD1), TANK1-binding kinase 1, fused in sarcoma (FUS), and TAR DNA-binding protein 43 (TDP-43).[11]

There is **NO CURE FOR ALS,** and patient care is focused on symptom management and palliative care.[14] Some disease modifying treatments are available, however these offer limited or unconfirmed benefits.[15]

REFERENCES

1. Onyike CU and Diehl-Schmid J. Int Rev Psychiatry. 2013;25(2):130–137;
2. Onyike CU. Neuroepidemiology. 2011;37:166–167;
3. Riedl L et al. Neuropsychiatr Dis Treat. 2014;10:297–310;
4. The Association for Frontotemporal Degeneration. (2023, February 16). What is FTD? AFTD. Retrieved April 11, 2023, from https://www.theaftd.org/what-is-ftd/disease-overview/;
5. Hogan DB et al. Can J Neurol Sci. 2016;43 (Suppl 1):S96–S109;
6. Young JJ et al. Ther Adv Psychopharmacol. 2018;8(1):33–48);
7. Kuang, L., et. al. Frontotemporal dementia non-sense mutation of progranulin rescued by aminoglycosides. Human Molecular Genetics 2020;29(4):624-634;
8. Hardiman O et al. Nat Rev Dis Primers. 2017;3:17071;
9. Chiò A et al. Amyotroph Lateral Scler. 2009;10(5–6):310–23;
10. Masrori P and Van Damme P. Eur J Neurol. 2020;27(10):1918–29;
11. Salmon K et al. Brain. 2022;145(4):1207–10;
12. Longinetti E, Fang F. Epidemiology of amyotrophic lateral sclerosis: an update of recent literature. Curr Opin Neurol. 2019;32(5):771-776;
13. Ingre C, Roos PM, Piehl F, Kamel F, Fang F. Risk factors for amyotrophic lateral sclerosis. Clin Epidemiol. 2015;7:181-193;
14. Schultz J. Am J Manag Care. 2018;24(15 Suppl):S327–335;
15. Hergesheimer R et al. Expert Opin Pharmacother. 2020;21(9):1103–10;