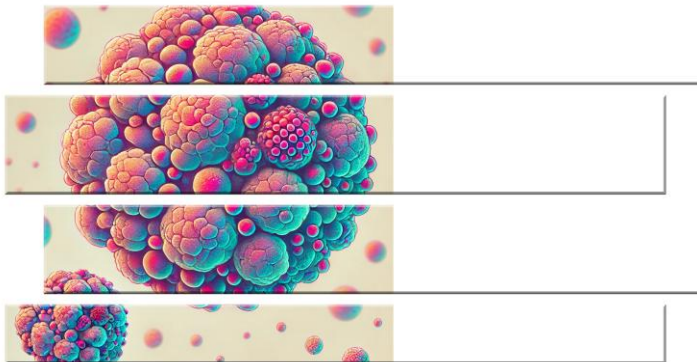




PRODUCT DATA SHEET

Alpha-Synuclein (G51D) Pre-formed Fibrils

SKU: TDA-1111-100

Product Details

Product Name: Alpha-Synuclein (G51D) Pre-formed Fibrils

Catalog Number: TDA-1111-100

Organism: *Homo Sapiens*, Human

Nature: Recombinant

Package Size: 100ug in 1mg/ml concentration

Conjugates: No tag

Protein Length/Size: Full Length

Expression System: E. coli

Amino Acid Sequence: MDVFMKGLSK AKEGVVAAAE KTKQGVAAEA GKTKEGVLYV
GSKTKEGVVH DVATVAEKTQ EQVTNVGGAV VTGVTAVAQK TVEGAGSIAA ATGFVKKDKL
GKNEEGAPQE GILEDMPVDP DNEAYEMPSE EGYQDYEPEA

Purity: >95% by SDS-PAGE

Storage Conditions & Shipment

Storage Buffer: PBS pH 7.4

Product Format/Shipped: Cryopreserved / Dry ice

Storage Temperature: -80°C for long term storage; avoid freeze/thaw cycle

Safety Precaution

PLEASE READ BEFORE HANDLING ANY FROZEN VIALS. Please wear appropriate Personal Protection Equipment (lab coat, thermal gloves, safety goggles and a face shield) when handling

Description

Alpha-synuclein (SNCA) fibrils, also referred to as pre-formed fibrils (PFFs), represent the pathogenic aggregated form of alpha-synuclein that is central to the development of synucleinopathies. Alpha-synuclein is predominantly expressed in the brain, where it is enriched at presynaptic nerve terminals and localized to mitochondria in multiple regions, including the olfactory bulb, hippocampus, striatum, and thalamus.

Pathological alpha-synuclein fibrils constitute the principal structural component of Lewy bodies and Lewy neurites, the defining hallmarks of Parkinson's disease (PD). In PD and related disorders, intracellular accumulation of alpha-synuclein fibrils, often co-localized with ubiquitin, occurs selectively in vulnerable neuronal populations and drives progressive neurodegeneration. In addition, alpha-synuclein fibrillar aggregates have been identified as a major non-amyloid- β component of amyloid plaques in Alzheimer's disease, highlighting their broader relevance in neurodegenerative pathology.

Product Data

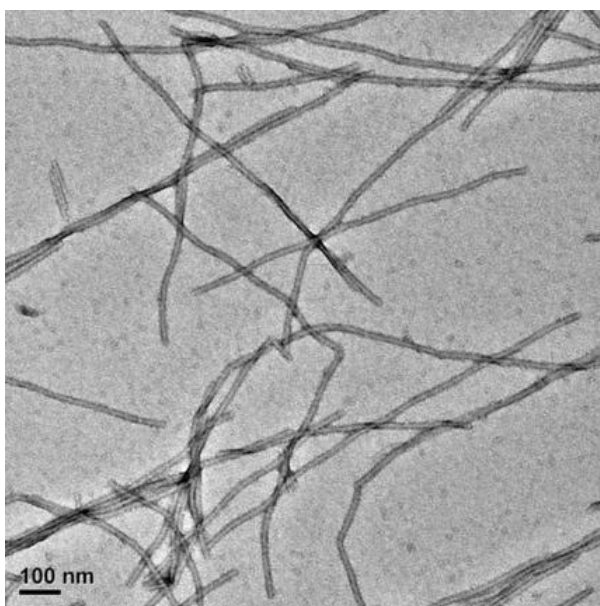


Figure 1, TEM of alpha-Synuclein (G51D) Pre-formed Fibrils

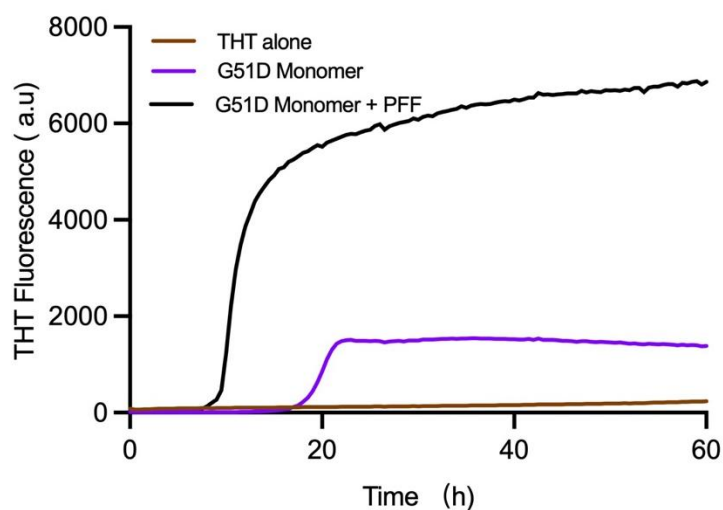


Figure 2, Thioflavin T (ThT) aggregation kinetics of α -synuclein G51D monomer with and without preformed fibril (PFF) seeding.

Time-dependent ThT fluorescence of recombinant α -synuclein G51D monomer alone (purple) and in the presence of preformed fibril seeds (G51D monomer + PFF(5%), black). The unseeded G51D monomer exhibits a delayed and limited increase in ThT fluorescence, whereas PFF seeding markedly accelerates aggregation, resulting in a rapid rise in ThT signal and a substantially higher fluorescence plateau. ThT alone (brown) served as a negative control and remained at baseline fluorescence throughout the assay. Fluorescence intensity is shown in arbitrary units (a.u.).

Applications

SDS-PAGE, WB, In vivo assay, In vitro assay

Disclaimers

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use.