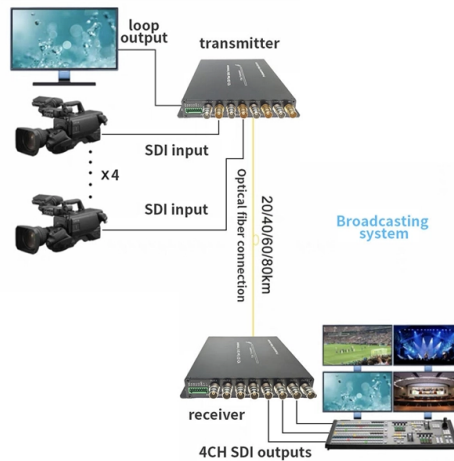


Extra-fine tail fiber



AI Overview

Extra-fine tail fibers are highly precise fiber optic or biological fibers designed for connectivity or molecular recognition, with applications in telecommunications and phage research.

Fiber Optic Extra-Fine Tail Fibers In fiber optics, a tail fiber (or pigtail) is a short fiber optic cable with a connector on one end and a bare fiber on the other, used to connect fiber optic cables to transceivers or couplers (). Extra-fine tail fibers typically refer to fibers with very small core diameters or high-precision connectors, enabling minimal signal loss and high-density installations. Key characteristics include:

- Single-mode vs multimode:** Single-mode fibers (yellow sheath) operate at 1310–1550 nm for long distances (10–40 km), while multimode fibers (orange sheath) operate at 850 nm for shorter distances (~500 m) ().
- Connector types:** Common connectors include FC/PC, SC/PC, and LC, designed for low insertion loss and high repeatability ().
- Applications:** Used in optical distribution frames (ODFs), high-speed data networks, and precision instrumentation where signal integrity is critical.

Biological Phage Tail Fibers In microbiology, tail fibers are elongated, flexible proteins on bacteriophages that mediate host recognition and attachment (). While not "extra-fine" in the optical sense, research into high-resolution structural modeling has enabled detailed characterization of these fibers:

- Structure:** Tail fibers are often trimeric and modular, with distinct domains responsible for receptor binding ().
- Function:** They recognize bacterial surface molecules such as outer membrane proteins, exopolysaccharides, or flagella, facilitating viral infection ().
- Advances:** Computational tools like RBPseg and AlphaFold2-multimer allow prediction of full-length tail fiber structures, revealing 16 structural classes and 89 domains, which helps understand phage evolution and host specificity ().

Extra-Fine Carbon Fibers A related context is milled extra-fine carbon fibers, which are fibers with diameters as small as 0.1 mm, used in conductive coatings, adhesives, and composite reinforce...

Article Content

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These changes in spectrum are represented by the different colors of the tail fibers and the lipopolysaccharides coating the different bacteria, where

Phage tail fibre assembly proteins employ a modular structure to drive ...

Despite the wide occurrence of Tfa proteins, their functional mechanism has not been elucidated. Here, we investigate the tail fibre and Tfa of Escherichia coli phage Mu.

An ensemble pipeline, PhageHost, for phage tail fiber discovery and ...

Building on TailSeek predictions, we developed HostBuster, a deep learning framework that integrates tail fiber features with host-specific information to predict the lytic potential of phage-

Large-Scale Structural Dynamics in the Tail Fiber Modulate the ...

Here, we investigated the structural dynamics of T7 bacteriophage tail fibers. The T7 virion comprises an icosahedral protein shell and a tail-fiber complex, which is involved in bacterial

Bacteriophage T4 long tail fiber domains

Bacteriophage T4 initially recognizes its host cells using its long tail fibers. Long tail fibers consist of a phage-proximal and a phage-distal rod, each around 80 nm long and attached to each

Tail Fiber: Types, Functions, and Common Interfaces

Similar to fiber optic jumpers, tail fibers are classified into single-mode and multimode types, differing in color, wavelength, and transmission distances. Generally, multimode tail fibers are

Tail Fiber: Types, Functions, and Common Interfaces

A tail fiber, also known as a fiber optic patch cord, consists of a connector on one end and a cut end of the fiber optic cable core on the other. These patch cords are primarily used to

Bucktail 101: Finding the Right Tails for Tying

Bucktail sizing refers simply to how big the tail is. Depending on the deer the tail was harvested from, this can vary. Typically, the bigger the bucktail,

RBPseg: Toward a complete phage tail fiber structure atlas

Here, we introduce RBPseg, a method that combines monomeric ESMFold predictions with a structural-based domain identification approach, to divide tail fiber sequences into manageable

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Leinuosen 2 Pack 9 Inch Rat Tail Comb for Women Fine Tooth Parting Comb Carbon Fiber Heat Resistant Teasing with Plastic Pick Hair Styling Thin

(PDF) Towards a complete phage tail fiber structure atlas

This method segments the tail fiber sequences into smaller fractions, preserving domain boundaries. These segments are then predicted in parallel

Modified Bacteriophage Tail Fiber Proteins for Labeling,

Phage host range is often determined by their long tail fibers (LTFs) that mediate adsorption of the virus particle to potential bacterial host cells, by binding to specific cell surface

A Novel Subcluster of Closely Related Bacillus Phages with Distinct ...

We isolated seven Bacillus subtilis phages from desert soil in the southwest United States and then sequenced and characterized their genomes. Comparative analyses revealed high

RBPseg: Toward a complete phage tail fiber structure atlas

RBPseg enables accurate modeling of tail fiber structure, providing the first comprehensive tail fiber structure atlas.

Architecture of the bacteriophage lambda tail: Structure

Bacteriophage lambda is an excellent model system to study the tail architecture of bacteriophages. Wang et al. present the

Functions and properties related to the tail fibers of bacteriophage T4

It is shown that adsorbability of T4 is regularly correlated with the extended state of the tail fibers, suggesting that in T4 fiber extension is a necessary condition for adsorption. Furthermore the

What Are Tail Fibers and Why Are They Important?

Tail fiber proteins can also be used as biosensing molecules to detect particular bacterial pathogens. Studying tail fibers contributes to fundamental research into host-pathogen interactions,

What Are Tail Fibers and Why Are They Important? [The Truth]

Tail fibers are specialized, needle-like protein structures extending from the baseplate of a bacteriophage that function as sensory organs to identify and bind to specific receptor sites on a host

The Ultimate Guide to Choosing the Best Tail Material

Choosing Tail Material for Fly Tying As an avid fly fisherman, I understand the importance of selecting the right tail material for tying flies. The

A comprehensive catalogue of receptor-binding domains in ...

Extracellular contractile injection systems (eCISs) are bacteriophage tail-derived toxin delivery complexes in prokaryotes. They play roles in microbial interactions with hosts, using tail fiber ...

Asymmetric Structure of Podophage GP4 Reveals a Novel

Bacteriophage tail fibers (or called tail spikes) play a critical role in the early stage of infection by binding to the bacterial surface. Podophages with known structures usually possess one

WellieSTR 5 Color Tapered Nylon Fibers for Dry Fly

Strong and Durable, Ultra Fine Nylon Fiber, Fine Diameter For Flies Up to Size 30, High Floating Material, Not Absorb Water Application: Perfect for tying Mayfly

FUNCTIONS AND PROPERTIES RELATED TO THE TAIL FIBERS

Semantic Scholar extracted view of "FUNCTIONS AND PROPERTIES RELATED TO THE TAIL FIBERS OF BACTERIOPHAGE T4." by E. Kellenberger et al.

Fiber tail fiber characteristics

Pigtail, also known as pigtail, has only one end with a connector, and the other end is a broken end of a fiber optic cable core. It is connected to other

Morphogenesis of the T4 tail and tail fibers.

Of these, Myoviridae phages have the most complex tail structures with the greatest number of proteins involved in the tail assembly and function. Bacteriophage T4 belongs to this sub

Amino acid residues in the tail fiber differentiate the host ...

The predicted structure of the tail fiber revealed that the two amino acid residues are located on the surface of the tail fiber, suggesting that these

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.araziyahsafety.co.za>

Email: info@araziyahsafety.co.za

Phone: +27 72 418 3692

Address: 123 Rivonia Road, Sandton, Johannesburg, 2196, South Africa

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