

# Fimbrial Protein (pilA), His-tag

From *Pseudomonas aeruginosa* (strain: Pa110594)

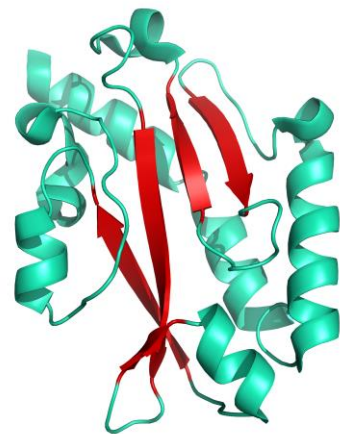
Cat. no. P2020-145

## Product Information

Protein:	Fimbrial Protein (pilA), His-tag (17.6 kDa)
Uniprot#:	Q8KQ36
Sequence:	MDPFTVTRVSEGLVLAEPAKLMISTDGSASTADLTRATTTWNQQSNLGGASKYVTSVL MDAGNTGVITITYVADQVGLPTAGNTLILSPYINDGNTRTALATAVAAGTRGTIDWACTS ASNATATAQGFTGMAAGSVPQEFAPAQCR
	Methionine at pos. 1 might be present due to cloning constraints, N-terminal His-tag not shown in sequence.
Source:	Recombinantly expressed in <i>E. coli</i> .
Tag(s):	His-tag, N-terminal
Purification:	Purified by affinity chromatography and subsequent buffer exchange.
Formulation:	PBS; pH 7.4. Liquid, stored and shipped at -80 °C.
Purity:	> 85% (will be determined by densitometry of Coomassie stained gel, example next page)
Concentration:	Will be determined by BCA-Assay.
Long-term storage:	No recommendations.

## Background Information:

Pathogenic bacteria, such as *Pseudomonas aeruginosa*, have developed a variety of virulence factors facilitating the infection process. A prominent virulence factor are pilins essentially required for attachment of the pathogen to the host cell and thus to initiate an infection. Pilins of *P. aeruginosa* are polymers of non-covalently associated pilA monomers that form a fiber with a diameter of six nm and a length of up to several micrometers. These fibers are polar and dynamic, retractable structures that are regarded as prototypes of type IV pili. Although each pilA monomer has a receptor binding site, only the monomers at the pilus tip have functional binding sites mediating adhesion. Binding occurs at glycosylated receptors that contain a  $\beta$ -D-GalNAc (1  $\rightarrow$  4)- $\beta$ -D-Gal moiety, such as the glycolipids asialo-GM1 and asialo-GM2. Strikingly, pilin fibers of different bacterial strains are sometimes highly divergent, but all strains still seem to bind a common receptor, asialo-GM1. Structural elucidation of pilin variants is essential for the development of effective vaccines that block adhesion of pathogens to host cells. Successful crystallization of the pilin monomer pilA from the *P. aeruginosa* strain Pa110594

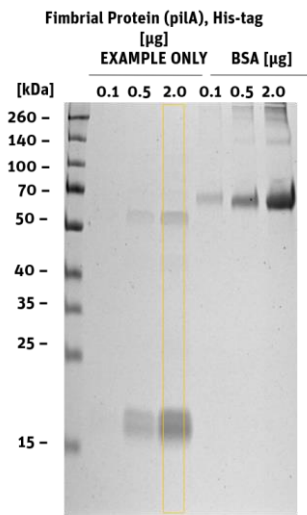


Structural model of Fimbrial Protein (pilA), His-tag

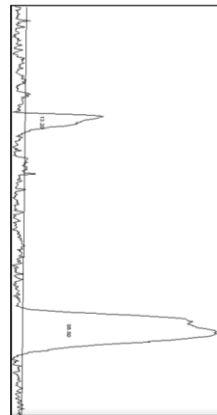
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was enabled by truncation of the hydrophobic N-terminus to increase solubility without hindering receptor binding capacities. Here, an N-terminally His-tagged variant of the truncated pilA is available.

### Quality Information (provided for each lot):



**12 % SDS-PAGE**  
 SDS-PAGE/Coll.Coomassie



	Area	Percent
1	2656.456	13.199
2	17469.811	86.801

Histogram (of marked lane in gel picture)