



DNA Aptamer against Protein A of *Staphylococcus aureus*

SKU# APT-019: DNA Aptamer against Protein A of *Staphylococcus aureus*

Background

Staphylococcal protein A (SpA) is a cell surface protein found in almost all strains of *Staphylococcus aureus*. It's a key virulence factor that helps the bacteria evade the host's immune response. SpA has many functions, including:

- **Binding to immunoglobulins:** SpA binds to the Fc portion of all human IgG subclasses except IgG3, which prevents antibodies and complement from attaching to the bacterial surface. This makes it harder for the body to clear the bacteria through phagocytosis.
- **Causing inflammation:** SpA is a major proinflammatory factor in the lungs, where it activates TNFR1, a surface receptor. This activates inflammatory responses in the airway epithelium.
- **Altering the behavior of other bacteria:** SpA can also affect other bacteria, such as *Pseudomonas aeruginosa*. For example, SpA can inhibit biofilm formation and phagocytosis by neutrophils.

Aptamer type: DNA aptamer

Aptamer length: 76 bp

Affinity KD: 84 ± 5 nM

Kit contents

The following components are included in the Kit.

	Component	Quantity
APT-019-10	Single strand DNA, lyophilized powder	10 nmol
APT-019-30	Single strand DNA, lyophilized powder	30 nmol

- Store at -20°; reagents are guaranteed stable for 12 months when properly stored.

References

Stoltenburg, R., Schubert, T., Strehlitz, B., In vitro selection and interaction studies of a DNA aptamer targeting Protein A, PLoS One 10 (2015) e0134403.