

Address : Technology Incubation Centre, Infrastructure University Kuala Lumpur (IUKL), Unipark Suria
Jalan Ikram-Uniten, 43000 Kajang, Selangor Darul Ehsan, Malaysia.
Email : contact@biogenestech.com

APTAMERS - FAQs

1. What are **aptamers**?

Aptamers are single strands of DNA or RNA oligonucleotides that can fold naturally into three-dimensional shapes that fits and binds selectively into specific target molecules such as proteins, macro and small molecules. The folded shapes of these aptamers depends on the specific sequence of A, C, G and T of the oligonucleotides.

2. How are **aptamers** created?

Conventional method to 'create' aptamers are based on a tedious iterative process called SELEX that combines several cycles of matching, washing and amplifying a library of random sequences of oligonucleotides to the target molecule. At Biogenes, we deploy and combine both the advantages of SELEX and in silico methods to come up with aptamers in more precise and faster way.

3. How different are **aptamers** from antibodies?

Aptamers are oligo-based consisting of sugar-phosphate backbone and the four nucleotides, while antibodies are protein-based. Typical lengths of aptamers are between 30 – 100 mers, making them much smaller and versatile than antibodies.

4. How are **aptamers** better than antibodies?

The design of aptamers towards target molecules are more precise than antibodies as the process is chemistry-based rather than organism-based. The design and subsequent production of aptamers do not harm any animals, making it a viable option for researchers and companies that practice high standards in animal ethics.

5. What are the benefits in using **aptamers** in diagnostic applications?

Aptamers being oligo-based, can be chemically synthesized with perfect batch-to-batch consistency, therefore ensuring quality of the diagnostic products. Companies also have the option to produce the aptamers in-house, hence reducing dependency on suppliers of antibodies especially from other countries.

6. How are Biogenes **aptamers** different?

At Biogenes, we combine the best of both lab-based SELEX and in silico design to obtain the right aptamers for our target molecules. This combination allows us to rapidly optimize our aptamer design and speed up the lab-to-market pipeline for all our aptamers.