One-step Instrument-free High-affinity Aptamer Selection

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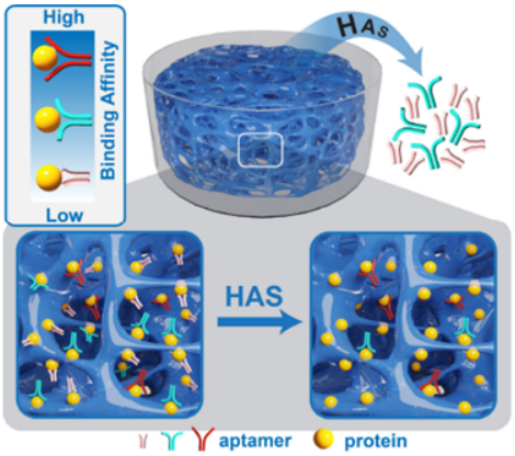

Figure 1. Schematic illustration of the HAS method

Technology Summary

The inventors have developed a Hydrogel for Aptamer Selection (HAS) method for fast, reliable aptamer selection in one single step with a virtually 100% success rate. Aptamers, also known as chemical antibodies, can be applied to most, if not all, areas that antibodies have been designed for. This includes cancer therapy, anti-inflammation, anti-coagulation, regenerative medicine, molecular biosensing, cell separation, drug or nanoparticle delivery, detoxification, and more fields. Aptamers selected through HAS have high affinity, high specificity (minimal off-target effects), and high stability, but do not need modification or truncation.

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Application & Market Utility

This new method is different from all traditional time-consuming and tedious selection methods and will be of high importance for areas that antibodies are able to be applied, including cancer therapy, anti-inflammation, regenerative medicine, molecular biosensing, and drug or nanoparticle delivery. For example, according to Mordor Intelligence, as of 2020, cancer therapies alone make up $158 B in the market. Given the high interest and potential for aptamers, this alternative method for their selection is necessary to select aptamers faster and without negative selection or complicated instruments.

Next Steps

The research team is seeking licensing and investment opportunities.

TECHNOLOGY READINESS LEVEL 4

Seeking

Investment | Licensing | Research

Keywords

- Biomedicine
- Medicine
- Oncology

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