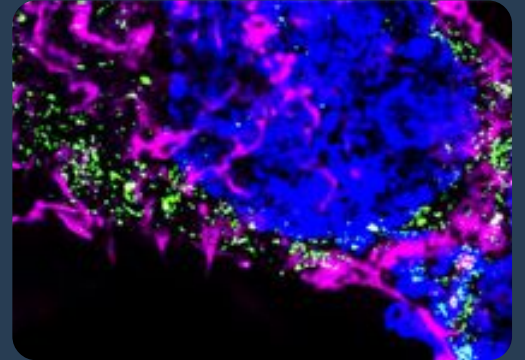


# Fluorogenic RNA Mango Aptamers for RNA Imaging and RNA-protein Complex Purification

A fluorogenic suite of RNA aptamers that binds to a series of cell permeable dyes and become thousands of times brighter upon being bound

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Reference: 2018-006

Header image provided by the univeristy

## IP Status

Patented

## Seeking

Seeking investment, Commercial partner, Development partner

# Background

The recent development of RNA-based vaccines and RNA-guided CRISPR gene editing has demonstrated the power of RNA tools towards human health and biological research. RNA Mango is a cutting-edge RNA technology that simultaneously enables single-molecule RNA imaging and RNA pulldowns within a single RNA tag.

Compatible with a broad range of protein imaging techniques, the demonstrated advantages of Mango technology will enhance and streamline your RNA-based research.

## Tech Overview

**Summary:** This fluorogenic suite of RNA aptamers binds to a series of cell permeable dyes that become thousands of times brighter upon being bound by a Mango aptamer. Equally important, the excellent binding affinities of these aptamers enables robust native complex pull downs. The fluorescence efficiency of these Mango aptamers is outstanding and allows high contrast single-molecule imaging either *in vitro* or *in vivo*.

**RNA Mango imaging:** The patented properties of RNA Mango aptamers makes them well suited for imaging RNA molecules either in live or fixed tissue culture. RNA Mango aptamers are compatible with common microscope excitation laser lines and emission filters and are easily inserted into structured cellular RNAs. RNA Mango aptamers are highly resistant to formaldehyde, allowing fixed cell protein imaging protocols to be used for routine RNA imaging. Their high contrast enables robust single-molecule RNA imaging, and since Mango aptamers replace bleached fluorophores with fresh ones, they are resistant to photobleaching enabling advanced super resolution (SIM) RNA imaging methodologies. This powerful imaging technology has many applications and is commonly utilized as an *in vitro* based transcriptional reporter technology.

**RNA protein (RNP) pulldowns:** Due to the high affinity of RNA Mango aptamers they can also be used to perform stringent RNA-protein complex purification. Native batch purification is straightforward and since the recovered complexes are fluorescent (owing to their RNA Mango tag), subsequent purification steps are dramatically simplified. The dual fluorescent and purification properties of the Mango tag being very useful for the rapid purification of extremely pure RNP complexes.

## Benefits

- Mango aptamers are small (<30-nt) very well characterized RNA sequences that can be easily inserted into any RNA of interest.
- With proven human tissue culture compatibility, Mango aptamers have many live and fixed cell applications ranging from single-molecule imaging to super-resolution imaging without requiring complex microscope modification.

- The high affinity of Mango aptamers to their fluorogenic ligands enables robust RNA and RNA-protein complex purification. This streamlines use of this technology for the end user, who can use the same tag for multiple purposes.

## Patents

- IP Filed: WO2018/198013 (priority date: April 24, 2017)

Learn more about this opportunity

## About IN-PART

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