WHAT IS CLAIMED IS:

1. A method for binding an analyte capture sequence to a capture domain comprising:

(a) contacting a biological sample with an array, wherein the array comprises a plurality of capture probes comprising (i) a spatial barcode and (ii) a capture domain;

(b) providing a plurality of analyte capture agents, wherein an analyte capture agent comprises an analyte binding moiety that binds to an analyte in the biological sample, an analyte binding moiety barcode, and an analyte capture sequence,

wherein the capture domain, the analyte capture sequence, or both, are reversibly blocked with one or more blocking probes; and

(c) releasing the one or more blocking probes from the capture domain, the analyte capture sequence, or both, and allowing the analyte capture sequence to specifically bind to the capture domain, thereby binding the analyte capture sequence to the capture domain.

2. The method of claim 1, wherein the blocking enhances the specificity of binding an analyte capture sequence to a capture domain compared to analyte binding specificity without blocking the capture domain, the analyte domain, or both.

3. The method of claim 1 or 2, further comprising, fixing the biological sample, and optionally wherein the fixing comprises methanol, and staining the biological sample, and optionally, wherein the staining comprises immunofluorescence.

4. The method of any one of claims 1-3, wherein, prior to the providing in step (b), contacting the plurality of analyte capture agents with the one or more blocking probes.

5. The method of any one of claims 1-4, wherein the capture domain is reversibly blocked with a blocking probe of the one or more blocking probes.

6. The method of any one of claims 1-5, wherein the analyte capture sequence is reversibly blocked with a blocking probe of the one or more blocking probes.

7. The method of any one of claims 1-6, wherein the capture domain is reversibly blocked with a first blocking probe of the one or more blocking probes and the analyte

~~capture sequence is reversibly blocked with a second blocking probe of the one or more blocking probes.~~

~~8. The method of any one of claims 1-7, wherein the releasing of the one or more blocking probes comprises the use of an enzyme.~~

~~9. The method of claim 8, wherein the enzyme is an endonuclease.~~

~~10. The method of claim 9, wherein a blocking probe of the one or more blocking probes comprises one or more inosine nucleotides and the endonuclease is endonuclease V.~~

~~11. The method claim 9, wherein a blocking probe of the one or more blocking probes comprises one or more abasic sites and the endonuclease is endonuclease IV.~~

~~12. The method of claim 9, wherein a blocking probe of the one or more blocking probes comprises a uracil and the enzyme is a uracil-specific excision reagent (USER).~~

~~13. The method of claim 12, wherein the blocking probe comprises a poly(U) sequence, one or more RNA bases, one or more LNA bases, or combinations thereof.~~

~~14. The method of any one of claims 1-13, wherein a blocking probe of the one or more blocking probes, when hybridized to the analyte capture sequence or the capture domain, comprises one or more mismatched nucleotides, and the releasing comprises increasing the temperature of the biological sample.~~

~~15. The method of claim 14, wherein one or more mismatched nucleotides in the blocking probe hybridized to the analyte capture sequence or the capture domain are positioned after the fourth nucleotide from a 5' end of the blocking probe and before the last four nucleotides at the 3' end of the blocking probe.~~

~~16. The method of claim 14, wherein one or more mismatched nucleotides in the blocking probe hybridized to the analyte capture sequence or the capture domain are positioned after the sixth nucleotide from the 5' end of the blocking probe and before the last six nucleotides at the 3' end of the blocking probe.~~

17. The method of any one of claims 1-16, wherein the blocking probe has a length of about 8 to about 24 nucleotides.

18. The method of any one of claims 1-17, wherein the releasing of the one or more blocking probes further comprises washing the biological sample.

19. The method of any one of claims 1-18, wherein the method further comprises permeabilizing the biological sample.

20. The method of any one of claims 1-19, wherein the capture domain comprises a nucleotide sequence of about 10 to 25 nucleotides in length.

21. The method of any one of claims 1-20, wherein the capture domain comprises a unique nucleotide sequence.

22. The method of any one of claims 1-21, wherein the analyte is a protein.

23. The method of any one of claims 1-22, wherein the analyte binding moiety is an antibody or an antigen-binding fragment thereof.

24. The method of any one of claims 1-23, wherein the analyte capture agent further comprises a linker, wherein the linker is disposed between the analyte binding moiety and the analyte binding moiety barcode.

25. The method of claim 24, wherein the linker is a cleavable linker, and optionally, wherein the cleavable linker is a photo-cleavable linker or an enzyme cleavable linker.

26. The method of any one of claims 1-25, wherein the method further comprises determining a sequence of (i) all or a part of the sequence of the analyte binding moiety barcode or a complement thereof, and (ii) all or a part of the sequence of the spatial barcode or a complement thereof, and using the determined sequence of (i) and (ii) to identify a location of the analyte in the biological sample.

~~27. The method of claim 26, wherein the determining comprises sequencing (i) all or a part of the sequence of the analyte binding moiety barcode or a complement thereof, and (ii) all or a part of the sequence of the spatial barcode or a complement thereof.~~

~~28. The method of claim 27, wherein the sequencing comprises high throughput sequencing.~~

~~29. The method of any one of claims 1-28, wherein the biological sample is a tissue sample, a fixed tissue sample, a formalin-fixed paraffin-embedded tissue sample, or a fresh-frozen tissue sample.~~

~~30~~1. A kit comprising:

(a) an array, wherein the array comprises a plurality of capture probes, wherein a capture probe of the plurality of capture probes comprises: (i) a spatial barcode and (ii): a capture domain; and

(b) a plurality of analyte capture agents, wherein an analyte capture agent of the plurality of analyte capture agents comprises: (i) an analyte binding moiety that ~~binds~~ specifically binds to an analyte in a biological sample, (ii) an analyte binding moiety barcode, and (iii) an analyte capture sequence, wherein the capture domain, the analyte capture sequence, or both are reversibly blocked with one or more blocking probes.

~~31~~2. The kit of claim ~~30~~1, wherein the capture domain is reversibly blocked with a blocking probe of the one or more blocking probes.

~~32~~3. The kit of claim 1~~30~~ or 2~~31~~, wherein the analyte capture sequence is reversibly blocked with a blocking probe of the one or more blocking probes.

~~33~~4. The kit of any one of claims 1~~30~~-~~32~~3, wherein the capture domain is reversibly blocked with a first blocking probe of the one or more blocking probes and the analyte capture sequence is reversibly blocked with a second blocking probe of the one or more blocking probes.

~~34~~5. The kit of any one of claims ~~30~~1-~~33~~4, wherein the kit further comprises an endonuclease~~enzyme~~.

~~35. The kit of claim 34, wherein the enzyme is an endonuclease.~~

~~36~~6. The kit of claim ~~35~~5, wherein a blocking probe of the one or more blocking probes comprises one or more inosine nucleotides and the endonuclease is endonuclease V.

~~37~~7. The kit of claim ~~35~~5, wherein a blocking probe of the one or more blocking probes comprises one or more abasic sites and the endonuclease is endonuclease IV.

~~38~~8. The kit of claim ~~35~~5, wherein a blocking probe of the one or more blocking probes comprises a uracil and the enzyme is a uracil-specific excision reagent ~~(USER)~~.

~~39~~9. The kit of claim ~~38~~8, wherein the blocking probe comprises a poly(U) sequence, one or more RNA bases, one or more LNA bases, or~~and~~ combinations thereof.

~~40~~10. The kit of any one of claims ~~30~~1-~~39~~9, wherein a blocking probe of the one or more blocking probes, when hybridized to the analyte capture sequence or the capture domain, comprises one or more mismatched nucleotides.

~~41~~11. The kit of any one of claims ~~30~~1-~~40~~10, wherein a~~the~~ blocking probe of the one or more blocking probes has a length of about 8 nucleotides to about 24 nucleotides.

~~42~~12. The kit of any one of claims ~~30~~1-~~41~~11, wherein the capture domain comprises a nucleotide sequence of about 10 nucleotides to about 25 nucleotides in length.

~~43~~13. The kit of any one of claims ~~30~~1-~~42~~12, wherein the capture domain comprises a unique nucleotide sequence.

~~44~~14. The kit of any one of claims ~~30~~1-~~43~~13, wherein the analyte binding moiety is an antibody or an antigen-binding fragment thereof.

15. The kit of any one of claims 1-14, wherein the analyte binding moiety barcode identifies the analyte specifically bound by the antigen binding moiety.

~~45~~16. The kit of any one of claims ~~30~~1-~~44~~15, wherein the analyte capture agent further comprises a linker, wherein the linker is disposed between the analyte binding moiety and the analyte binding moiety barcode.

~~46~~17. The kit of claim ~~45~~16, wherein the linker is a cleavable linker, and optionally, wherein the cleavable linker is a photo-cleavable linker or an enzyme cleavable linker.

18. The kit of any one of claims 1-17, wherein the kit further comprises a protease, and optionally, wherein the protease comprises Proteinase K and/or pepsin.

19. The kit of any one of claims 1-18, wherein the kit further comprises a detergent, and optionally, wherein the detergent comprises Tween-20®, Triton-X 100, and/or SDS.

20. The kit of any one of claims 1-19, wherein the kit further comprises a buffer comprising an RNase and a ribonucleoside vanadyl complex.