

Kevin McKernan: Mr. McKernan currently serves as the Founder and Chief Scientific Officer of Medicinal Genomics. In 2011, Medicinal Genomics was the first organization to publish the *Cannabis sativa L.* draft genome in effort to build a better scientific foundation for cannabis based therapeutics, blockchain tracking of strains, and microbial-cannabis safety tests. In 2018, Medicinal genomics further refined this genome reference with the publication of the Jamaican Lion genome with DASH and Pacific Biosciences. To date this is the most contiguous Cannabis genome reference ever created and has aided in the design of high specificity qPCR assays for microbial contamination in cannabis. Medicinal Genomics now offers cannabis safety testing and strain tracking services in over 30 states and multiple countries.

Previously, Kevin worked as a Vice President and Director of R&D for Life Technologies where he oversaw the next generation SOLiD sequencing technology from 2006 to 2011. Integral to the SOLiD R&D process, Kevin oversaw over 100 research collaborations exploring the new biological frontiers with next generation sequencing. These collaborations gained traction in human tumor sequencing and resulted in hundreds of publications and 7 Journal covers from Science Translational Medicine, Genome Research, Clinical Chemistry, Nature Methods and Nature.

Prior to his work at ABI, Kevin was the President and CSO of Agencourt Personal Genomics, a startup company he co-founded in 2005 to develop SOLiD sequencing. This ligation based sequencing technology dropped the cost of sequencing a human genome from \$300M to \$3,000; a 100,000 fold improvement in sequencing speed and cost in a few years. Agencourt Personal Genomics was acquired by Applied Biosystems in 2006.

From 2000 to 2005, Kevin was the CSO of Agencourt Biosciences which was acquired by Beckman Coulter in 2005.

From 1996 to 2000 Kevin managed the Research and Development for the Human Genome Project at Whitehead Institute/MIT resulting in several patents for magnetic bead based nucleic acid purification. These purification tools have grown to comprise 37.9% of the nucleic acid purification market.

Kevin's peer reviewed publications have resulted in over 57,000 citations and 29 patents.

Kevin's publications include:

ORCID ID <https://orcid.org/0000-0002-3908-1122>

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- 9493830 Reagents, methods, and libraries for bead-based sequencing
- 9422594 Method of amplifying nucleic acid sequences
- 9309560 Methods for producing a paired tag from a nucleic acid sequence and meth
- 9217177 Methods for bead-based sequencing
- 8486382 Method for treating cervical cancer
- 8431691 Reagents, methods, and libraries for bead-based sequencing
- 8329404 Reagents, methods, and libraries for bead-based sequencing
- 8058030 Methods of producing and sequencing modified polynucleotides
- 7993842 Directed enrichment of genomic DNA for high-throughput sequencing
- 7851158 Enrichment through heteroduplexed molecules
- 7645866 Methods of producing and sequencing modified polynucleotides
- 7527929 Methods of isolating nucleic acids using multifunctional group-coated solid
- 6534262 Solid phase technique for selectively isolating nucleic acids

Patent Applications

- 20180163253 METHODS FOR PRODUCING A PAIRED TAG FROM A NUCLEIC ACID SEQUEN
- 20170081717 Reagents, Methods, and Libraries for Bead-Based Sequencing
- 20170073732 METHOD OF AMPLIFYING NUCLEIC ACID SEQUENCES
- 20160265034 METHODS FOR PRODUCING A PAIRED TAG FROM A NUCLEIC ACID SEQUEN
- 20160230223 Method Of Amplifying Nucleic Acid Sequences
- 20160186264 METHODS AND KITS FOR TREATING AND CLASSIFYING INDIVIDUALS AT RIS
FUNCTION
- 20160177404 Cannabis genomes and uses thereof
- 20140342353 Reagents, Methods, and Libraries for Bead-Based Sequencing
- 20140335569 Method Of Amplifying Nucleic Acid Sequences
- 20140248610 Reagents, Methods, and Libraries for Bead-Based Sequencing
- 20140243232 NUCLEIC ACID COMPLEXITY REDUCTION
- 20140057251 Cannabis Genomes and Uses Thereof
- 20120191363 Reagents, Methods, and Libraries for Bead-Based Sequencing
- 20110257385 METHODS FOR FLIP-STRAND IMMOBILIZING AND SEQUENCING NUCLEIC AC
- 20110257019 Directed Enrichment of Genomic DNA for High-Throughput Sequencing
- 20110081687 Enrichment Through Heteroduplexed Molecules
- 20110077169 Reagents, Methods, and Libraries for Bead-Based Sequencing
- 20100298551 Methods Of Producing And Sequencing Modified Polynucleotides

20100297628 Methods Of Producing And Sequencing Modified Polynucleotides
20100297626 Reagents, Methods, and Libraries for Bead-Based Sequencing
20100285461 Methods Of Producing And Sequencing Modified Polynucleotides
20100121044 SOLID PHASE TECHNIQUE FOR SELECTIVELY ISOLATING NUCLEIC ACIDS
20100120034 METHYLATION ANALYSIS OF MATE PAIRS
20100028888 METHODS FOR PRODUCING A PAIRED TAG FROM A NUCLEIC ACID SEQUENC
20090280540 DIRECTED ENRICHMENT OF GENOMIC DNA FOR HIGH-THROUGHPUT SEQU
20090191566 Kits for Isolating Nucleic Acids Using Multifunctional Group-Coated Solid Phase Car
20090181860 Reagents, methods, and libraries for bead-based sequencing
20090181385 Reagents, methods, and libraries for bead-based sequencing
20090062129 REAGENTS, METHODS, AND LIBRARIES FOR GEL-FREE BEAD-BASED SEQU
20090036325 Directed assembly of amplicons to enhance read pairing signature with massively p
20080274466 Enrichment Through Heteroduplexed Molecules
20080003571 Reagents, methods, and libraries for bead-based sequencing
20070231823 Directed enrichment of genomic DNA for high-throughput sequencing
20070054285 Method for isolating nucleic acids
20070026438 Methods of producing and sequencing modified polynucleotides
20060177836 Methods of isolating nucleic acids using multifunctional group-coated solid phase ca
20060078923 Method for isolating nucleic acids
20060024701 Methods and reagents for the isolation of nucleic acids
20060024681 Methods for producing a paired tag from a nucleic acid sequence and methods of us
20060003357 Solid phase technique for selectively isolating nucleic acids
20050072674 Method and device for introducing a sample into an electrophoretic apparatus
20040214175 Solid phase technique for selectively isolating nucleic acids
20040197780 Method for isolating nucleic acids
20030235839 Solid phase technique for selectively isolating nucleic acids

Honors and Awards:

- 1)Nominee- Aventis Innovative Investigator Award
- 2)Invitation to the Whitehouse, Human Genome Project Completion Celebration
- 3)Invitation to the House of Lords, Genomic Medicine
- 4)G35- Genome Technology, Most influential in Genomics under age 35
- 5)TR35 Nominee- MIT Technology Review
- 6)Beckman Coulter Game Ball- Most influential deal in Beckman Coulter in 2006
- 7)Most innovative patent of the year- Life Technologies 2008
- 8)Over a half dozen awards misdirected at me but really the ownership of the SOLiD team in Beverly, MA for the most innovative product in Nucleic Acid Sciences.

