



US009410198B2

(12) United States Patent
May et al.**(10) Patent No.: US 9,410,198 B2****(45) Date of Patent: Aug. 9, 2016****(54) COMPOSITIONS AND METHODS OF NUCLEIC ACID-TARGETING NUCLEIC ACIDS***A61K 38/46* (2006.01)
A61K 47/48 (2006.01)
C12N 15/90 (2006.01)**(71) Applicant: Caribou Biosciences, Inc., Berkeley, CA (US)****(52) U.S. Cl.**
CPC *C12Q 1/6869* (2013.01); *A61K 38/465* (2013.01); *A61K 47/48092* (2013.01); *C12N 9/22* (2013.01); *C12N 15/102* (2013.01); *C12N 15/52* (2013.01); *C12N 15/85* (2013.01); *C12N 15/90* (2013.01); *C12N 15/907* (2013.01); *C12Q 1/68* (2013.01); *C12Q 1/686* (2013.01); *C12Q 1/6806* (2013.01); *C12Q 1/6818* (2013.01); *C12N 2800/80* (2013.01)**(72) Inventors: Andrew Paul May, San Francisco, CA (US); Rachel E. Haurwitz, Kensington, CA (US); Jennifer A. Doudna, Berkeley, CA (US); James M. Berger, Baltimore, MD (US); Matthew Merrill Carter, North Granby, CT (US); Paul Donohoue, Berkeley, CA (US)****(58) Field of Classification Search**
CPC C12N 9/22; C12N 15/52; C12N 15/102; C12N 15/907; C12Q 1/68; C12Q 1/686; C12Q 1/6818; C12Q 2525/00
USPC 435/69.1, 69.7, 174, 199; 436/63, 536
See application file for complete search history.**(73) Assignee: Caribou Biosciences, Inc., Berkeley, CA (US)****(*) Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.**(21) Appl. No.: 14/751,055****(56) References Cited****(22) Filed: Jun. 25, 2015**

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(63) Continuation of application No. 14/206,319, filed on Mar. 12, 2014.**(60)** Provisional application No. 61/818,386, filed on May 1, 2013, provisional application No. 61/902,723, filed on Nov. 11, 2013, provisional application No. 61/818,382, filed on May 1, 2013, provisional application No. 61/859,661, filed on Jul. 29, 2013, provisional application No. 61/858,767, filed on Jul. 26, 2013, provisional application No. 61/822,002, filed on May 10, 2013, provisional application No. 61/832,690, filed on Jun. 7, 2013, provisional application No. 61/906,211, filed on Nov. 19, 2013, provisional application No. 61/900,311, filed on Nov. 5, 2013, provisional application No. 61/845,714, filed on Jul. 12, 2013, provisional application No. 61/883,804, filed on Sep. 27, 2013, provisional application No. 61/781,598, filed on Mar. 14, 2013, provisional application No. 61/899,712, filed on Nov. 4, 2013, provisional application No. 61/865,743, filed on Aug. 14, 2013, provisional application No. 61/907,777, filed on Nov. 22, 2013, provisional application No. 61/903,232, filed on Nov. 12, 2013, provisional application No. 61/906,335, filed on Nov. 19, 2013, provisional application No. 61/907,216, filed on Nov. 21, 2013.

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Primary Examiner — Kevin Hill*(74) Attorney, Agent, or Firm* — Gary R. Fabian; Barbara G. McClung**(51) Int. Cl.**
C12N 9/22 (2006.01)
C12N 15/52 (2006.01)
C12Q 1/68 (2006.01)
C12N 15/85 (2006.01)
C12N 15/10 (2006.01)**(57) ABSTRACT**

This disclosure provides for compositions and methods for the use of nucleic acid-targeting nucleic acids and complexes thereof.