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[Continued on next page]

(54) Title: MODULATION OF K2P CHANNELS

D

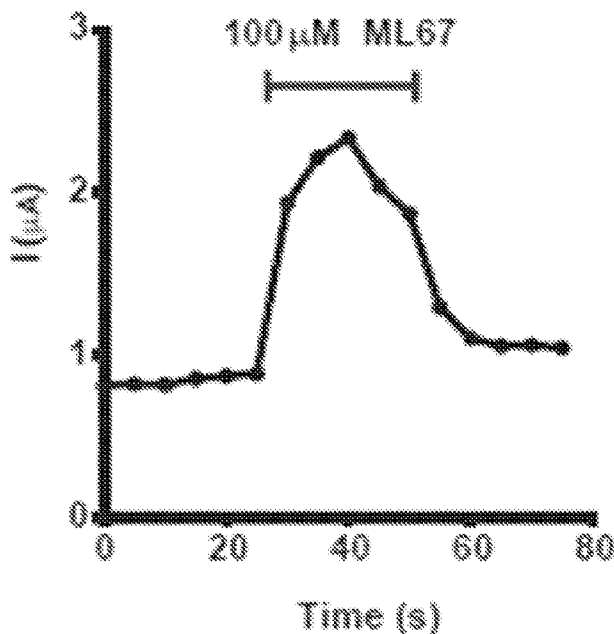


FIG. 2

(57) Abstract: Disclosed herein *inter alia* are compositions and methods useful in the treatment of diseases, for example pain, neurodegeneration, or mood disorders, and for modulating the activity of a K<sub>2P</sub> channel.





TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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PCT/US 14/27611

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61K 31/40; A61K 31/44; A01N 43/38; A01N 43/42; C07D 209/82 (2014.01)

CPC - A61K31/40; C07D209/88; C07D471/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
USPC - 514/292; 514/411; 548/440Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
Patbase (pgpb, uspt, usoc, epab, jpab, dwpi, tdbd), Dialog Proquest (npl), Google Patents (pl, npl), Google scholar (pl, npl); Search  
Terms: trek, trek-1, trek1, activate, activator, agonist, increase, tricyclic, structure, formula compound, potassium, channel, antidepressant, pain, dimetacrine, dimethacrine, ischemia, stroke, migraine, renso, min

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y --- A	US 2012/0252740 A1 (KOZIKOWSKI, et al.) 04 October 2012 (04.10.2012) entire document, especially para [0003]-[0005], [0015], [0079], [0120], [0182], [0188]; pg 16, 21, 25-27	1,3, (7,9-16)/(1,3), 17-18, 20-25, 26/(17-18,20-25) ----- 8/(3), (9-12,14-16)/(1-2,4-5) ----- 6, (7-16)/(6)
X --- Y --- A	US 2004/0076648 A1 (WILLIAMS, et al.) 22 April 2004 (22.04.2004) entire document, especially para [0007], [0056], [0062], [0147]	1-2, 4-5, (7-8,13)/(1-2,4-5), 17, 19, 26/(19) ----- 8/(3), (9-12,14-16)/(1-2,4-5) ----- 6, (7-16)/(6)
A	US 2012/0322060 A1 (MAZELLA, et al.) 20 December 2012 (20.12.2012) entire document, especially para [0054]	6, (7-16)/(6)
A	US 2013/0040298 A1 (FEINMARK, et al.) 14 February 2013 (14.02.2013) entire document, especially para [0009], [0018]	6, (7-16)/(6)
T	Bagriantsev, et al. "A high-throughput functional screen identifies small molecule regulators of temperature- and mechano-sensitive K <sub>2</sub> P channels." ACS chemical biology 8.8 (June 3, 2013): 1841-1851.	1-26

 Further documents are listed in the continuation of Box C. 

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"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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