Research achievement

Prof Rawat has significantly contributed in the area of drug development and one of the molecule that his group developed at University of Delhi has entered in Phase I human clinical trials for the treatment of Parkinson disease and it resulted a publication in Nature Communications (**ACS Med Chem Lett 2019, 2012; IN 283657, 2017**); **[ES2899730T3 (2022); CA3175047A1 (2022); EP3971178A1 (2022); US20170209441A1 (2021); PT2822936T (Portugal, 2021); US9567316B2 (2017); IN 283657 (2017); WO 2013 134047A3 (20213).].** **Phase I human clinical trials began in October 2023.**

Media Relation

March 29, 2023

NurrOn entered into co-development agreement with HanAll Biopharma and Daewoong Pharmaceuticals to develop ATH-399A for Parkinson's disease.
https://www.prnewswire.com/news-releases/hanall-biopharma-and-daewoong-pharmaceutical-enter-into-co-development-agreement-with-nurron-pharmaceuticals-to-develop-therapy-for-parkinsons-disease-301834508.html

December 1, 2022

NurrOn received the award of the translational pipeline program 2022 for a Phase I trial of ATH-399A from Michael J. Fox Foundation.
https://www.michaeljfox.org/grant/development-nurr1-activator-novel-therapeutic-parkinsons-disease


US011026943B2

(12) **United States Patent**
Rawat et al.

(10) **Patent No.: US 11,026,943 B2**
(45) **Date of Patent: *Jun. 8, 2021**

(54) **AMINOQUINOLINE DERIVATIVES AND USES THEREOF**

(71) Applicants: **UNIVERSITY OF DELHI**, Delhi (IN); **THE MCLEAN HOSPITAL CORPORATION**, Belmont, MA (US)

(72) Inventors: **Diwan S. Rawat**, Delhi (IN); **Sunny Manohar**, Delhi (IN); **Ummadisetty Chinna Rajesh**, Delhi (IN); **Deepak Kumar**, Delhi (IN); **Anuj Thakur**, Delhi (IN); **Mohit Tripathi**, Delhi (IN); **Panyala Linga Reddy**, Delhi (IN); **Shamseer Kulangara Kandi**, Delhi (IN); **Satyapavan Vardhineni**, Delhi (IN); **Kwang-Soo Kim**, Lexington, MA (US); **Chun-Hyung Kim**, Lexington, MA (US)

(73) Assignees: **The McLean Hospital Corporation**, Belmont, MA (US); **University of Delhi**, Delhi (IN)

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,196,155	A	7/1965	Gailliot et al.
2003/0119026	A1	6/2003	Le et al.
2003/0229119	A1	12/2003	Kym et al.
2004/0072818	A1	4/2004	Dunning et al.
2005/0186591	A1	8/2005	Bumcrot et al.
2009/0226401	A1	9/2009	Kim et al.
2011/0251210	A1	10/2011	Peyton et al.

FOREIGN PATENT DOCUMENTS

WO	00/59510	A1	10/2000
WO	03/070244	A1	8/2003
WO	2004/002960	A1	1/2004
WO	WO 2004/002960		1/2004
WO	2008/036374	A2	3/2008
WO	2009/148659	A2	12/2009
WO	2010/059738	A1	5/2010
WO	2010/065932	A1	6/2010

OTHER PUBLICATIONS

We have been working on nano-catalysis with a goal to develop a catalytic system that can be useful in making some of the Active Pharmaceutical Ingredients or industrially important chemicals. During this, we developed a catalytic system which can be used for the C-C bond formation and reduction of nitro compounds. This has resulted many high impact publications (**12 papers in ACS Sus Chem Eng, IF = 9.088, Green Chem, Org. Lett., J. Org. Chem.**).

One of the catalytic systems developed was used for the selective reduction of nitro compounds using hydrazine hydrate as a source of hydrogen and the process is being used for the synthesis of some industrially relevant molecules.

Research work Highlighted in the Cover Page:

- **Tetrahedron Letters** 59 (24), 13 June **2020**
- **Tetrahedron Letters** 59 (24), 13 June **2018**
- **Tetrahedron Letters** 57 (4), 5 October **2016**
- **ACS Sustainable Chemistry and Engineering 3 (1), 2015**

Research work Highlighted by Synfacts:

Green Chemistry 22, 3170 **(2020)**	**SYNFACTS** 2020, 16(08): 0995
Tetrahedron Letters 59, 2341 **(2018)**	**SYNFACTS** 2018, 14(08): 0883
Chemistry - An Asian Journal 12, 785 (**2017**)	**SYNFACTS** 2017, 13(07), 0766
Tetrahedron Letters 57, 4468 **(2016)**	**SYNFACTS** 2016, 12(12), 1314
RSC Advances 6, 2935 **(2016)**	**SYNFACTS** 2016, 12(4), 0427
RSC Advances 5, 92121 **(2015)**	**SYNFACTS** 2016, 12(2), 0214

प्रोफेसर दीवान एस रावत
एफएनएएससी, एफआरएससी, सीकेम (लंदन)
Professor Diwan S Rawat
FNASc, FRSC, CChem (London)
रसायन विज्ञान विभाग
Department of Chemistry
दिल्ली विश्वविद्यालय, दिल्ली-११०००७
University of Delhi, Delhi-1100007