

Patents

1. **Ruby John Anto**, A chemotherapeutic composition used in the treatment of cancer: Filing Number: #1184/Del/2004. IPR- Patent number: 241416, **Patent Granted**, Date of grant-02/07/2010: Funding by DBT, Govt. of India

2. **Ruby John Anto** and Jayesh Antony, Extracts from a plant, processes for obtaining the extracts and fractions and applications thereof, Filed on: 20.09.2010, Patent Application No. 2743/CHE/2010

3. C Mohandas, Bala Nambisan, **Ruby John Anto**, Vino T. Cheriyan and S. Nishanth Kumar. Anticancer activity of a cyclic dipeptide isolated from novel bacteria associated with *Rhabditis* sp., Filed on: 11-03- 2011 Patent Application No. 820/CHE/2011).

4. **Ruby John Anto** and Lakshmi R Nath,
Uttroside B and Derivatives Thereof as Therapeutics for Hepatocellular Carcinoma.

- National Patent Application No. 201641018401 dated 28th May 2016
- International patent Application No. PCT/ IN20 17/050204 dated 27th May 2017

Current patent Status

India- Replied to FER on Dec 14,2020 (Application in Amended Examination)

5. **USA** Uttroside B and Derivatives Thereof as Therapeutics for Hepatocellular Carcinoma WIPO patentscope number US20190160088, November 26,2018, **Patent granted.**
6. **Canada:** Uttroside B and Derivatives Thereof as Therapeutics for Hepatocellular Carcinoma WIPO patentscope number 3,026,426, November 28,2018, **Patent granted.**
7. **Japan:** Uttroside B and Derivatives Thereof as Therapeutics for Hepatocellular Carcinoma WIPO patentscope number JP2019520425, May 27,2017, **Patent granted.**
8. **South Korea:** Uttroside B and Derivatives Thereof as Therapeutics for Hepatocellular Carcinoma WIPO patentscope number KR1020190008323, May 27, 2017, **Patent granted.**
9. **Europe:** Uttroside B and Derivatives Thereof as Therapeutics for Hepatocellular Carcinoma WIPO patentscope number EP3463382, August, 2023, **Patent granted.**

Technology transfer/commercialization

- **Signed an MOU with Oklahoma Medical Research Foundation, USA** for the clinical translation of Uttroside B in liver cancer patients on January 31, 2017.
- **Transferred the technology to the multi-national Pharma company, Q Biomed.** And received the first milestone payment on June 15, 2017.
(<https://adisinsight.springer.com/drugs/800048876>);
<https://qbiomed.com/index.php/pipeline/uttroside>.
- **Received Orphan Drug Designation to Uttroside B on January 27, 2021.**

<https://www.prnewswire.com/news-releases/q-biomed-uttroside-b-receives-us-fda-orphan-drug-designation-in-the-treatment-of-liver-cancer-301215876.html>

<https://www.biospace.com/article/releases/q-biomed-s-uttroside-b-receives-u-s-fda-orphan-drug-designation-in-the-treatment-of-liver-cancer/>