

GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION No. 3868
ANSWERED ON 06/04/2023

STATUS OF EXTRACTION OF POTENTIAL DRUGS FROM THE OCEAN

3868. SHRIMATI SANGEETA YADAV:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the status of extraction of potential drugs from the ocean, particularly life saving drugs, anti-cancer and anti-tuberculosis, etc.; and
- (b) the details of performance of these drugs from the sea programme vis-a-vis similar programme of advanced scientific nations?

ANSWER

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

(a) and (b) CSIR-Central Drug Research Institute was the nodal lab for MoES. A total of 2654 compounds were screened for different activities for Anti-Cancer, Anti-Angiogenic, Anti-inflammatory, Anti-Bacterial, and GPCR profiling. Specifically for Anticancer activity of compounds submitted through MoES program was evaluated on five different cancer-type cell lines (MDA-MB231, DLD-1, FaDu, HeLa, and A549) as per standard operating protocol (SOP).

1. With this endeavor a potent Anti-cancer molecule named **GS/IICT5/6** has been identified. The molecule has shown a better tumor inhibitory profile as compared to Sunitinib. Currently, the molecule has cleared the initial safety profile. The molecule will be evaluated further.
2. On similar lines Cancer patients suffer from neuropathic pain after chemotherapy. In this endeavors for relieving the patient suffering using the MoES programme, a novel compound **SB/CDRI4/105** that can alleviate chemotherapy-induced peripheral neuropathic pain has been discovered. Currently, the molecule is also in the advanced stages of lead optimization and IND-enabling studies will be enabled shortly.
3. A very potent molecule **SP/NISER29**, a new class drug having anti-cancer activity has been identified. The molecule has shown potent anti-tumor activity in the animal model better than taxol. The compound has very good stability and disrupts the cytoskeletal filaments. This does not meet the criteria for further development and the data has been published.
