

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
Jadavpur, Kolkata - 700032

Transfer the liscence of Morpholino patents ('Advt No. AIS/53 Dated; 15/04/2021')

Invitation of Expression of Interest (EOI)

We have developed the following technologies for the preparation of morpholino oligonucleotides which are used for gene silencing reagents. Institute invites Expression of Interest (EOI) from eligible firms for manufacturing and marketing these products. EOI may be submitted separately in sealed envelopes through speed post / registered post or delivered by hand super scribing "EOI" for manufacturing and marketing the products" by 21st May 2021, 5.30 pm from the publication of this advertisement. Please see at our website www.iacs.res.in

Morpholino based antisense agent. Granted US 9,914,745B2, date of patent March 13, 2018

The invention relates to a cationic morpholino-based antisense agent.

More particularly the invention relates to a cationic morpholino-based antisense agent comprising cationic inter-subunit linkage in the oligonucleotide backbone and cationic side chains to the pyrimidine bases. It also includes the neutral alkynyl- and alkyl-side chain to the pyrimidine bases in order to have better neutral morpholino oligomers.

The present invention further relates to a synthetic method for the preparation of a cationic morpholino-based antisense agent.

The present invention also relates to the application of the said cationic morpholino-based antisense agent in tissue culture with improved transfection efficiency.

To study the cationic morpholino-conjugated dye, flurophore, drugs etc for cellular transfection properties. Such guanidinium linked morpholino called GMO is useful for gene silencing study as antisense reagents where there is no need of using transfection reagents.

MMTr-protected H-phosphonate monomers and MMTr-deprotection by organic acids are the right combination of morpholino oligonucleotides synthesis (Patent Application No. as 201631037420, 2nd November, 2016). (India)

The invention provides tertiary amine salts of MMTr (monomethoxytrityl)-protected H-phosphonate morpholino monomers of A (adenine), G (guanine), C (cytosine), T (thymine)

nucleobases suitable for manufacturing phosphorodiamidate morpholino oligonucleotides (PMO) used in antisense technology for gene silencing. Particularly, a solid support based synthetic methodology for phosphorodiamidate morpholino oligonucleotides (PMO) is also provided involving said tertiary amine salts of MMT_r (monomethoxytrityl)-protected H-phosphonate morpholino monomers together with some suitable activating agents.

Synthesis of Fmoc protected morpholino monomers and their use in the synthesis of morpholino oligomer. Application no. 201931044056, 31.10.2019, **Filed for US patent 30th October 2020 (India and USA).**

The invention relates to the process chemistry of Fmoc-protected morpholino monomers and activated chlorophosphoramidate monomers and H-phosphonate monomers that are capable for chain elongation favoring morpholino oligonucleotides preferably by solid phase synthesis. The chemistry for efficient synthesis of said Fmoc-protected morpholino monomers comprising Fmoc (Fluorenylmethoxycarbonyl)-protected chlorophosphoramidate monomers and H-phosphonate monomers are provided together with phosphorodiamidate morpholino oligonucleotides (PMO) finding end use and useful for antisense technology.

*Last date of submission by **May 21st, 2021** to E-mail: ocss5@iacs.res.in (Dr. Surajit Sinha); Chairman of IPR Cell, School of Applied and Interdisciplinary Sciences, IACS, Kolkata 700 032*