

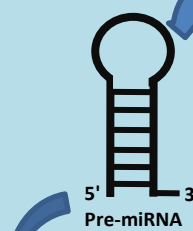
CYTOPLASM

C

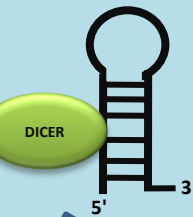
Synthetic precursor
miRNAs processing
by DICER



Precursor-miRNA

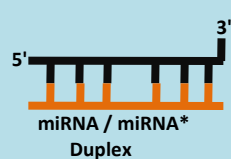


DICER Processing



DICER

miRNA transcription gene linked
to virus construct e.g. Adenovirus-
associated vector (AAV)

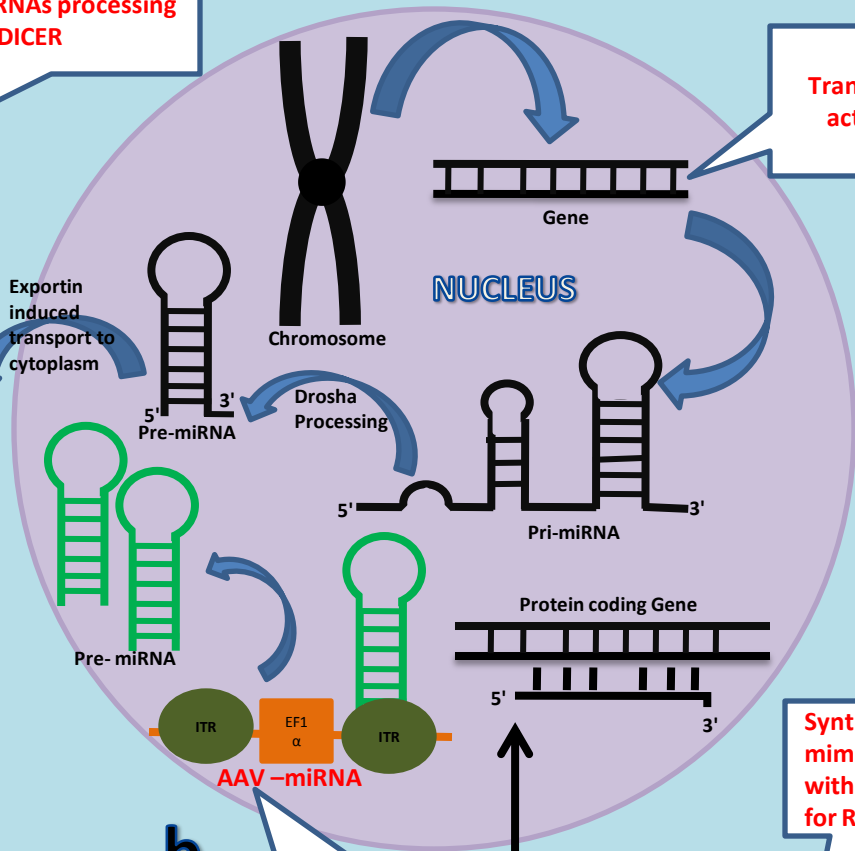


miRNA / miRNA*
Duplex

Restoration of Tumour
Suppressor miRNAs
e.g. Let-7a-1, miR-34a, miR-143,
miR-145

a

Transcription
activation



NUCLEUS

Chromosome

Gene

5'

3'

5'

3'

Pre-miRNA

5'

3'

Pri-miRNA

Protein coding Gene

5'

3'

AAV-miRNA

b

d

Synthetic miRNA
mimics competing
with mature miRNA
for RISC

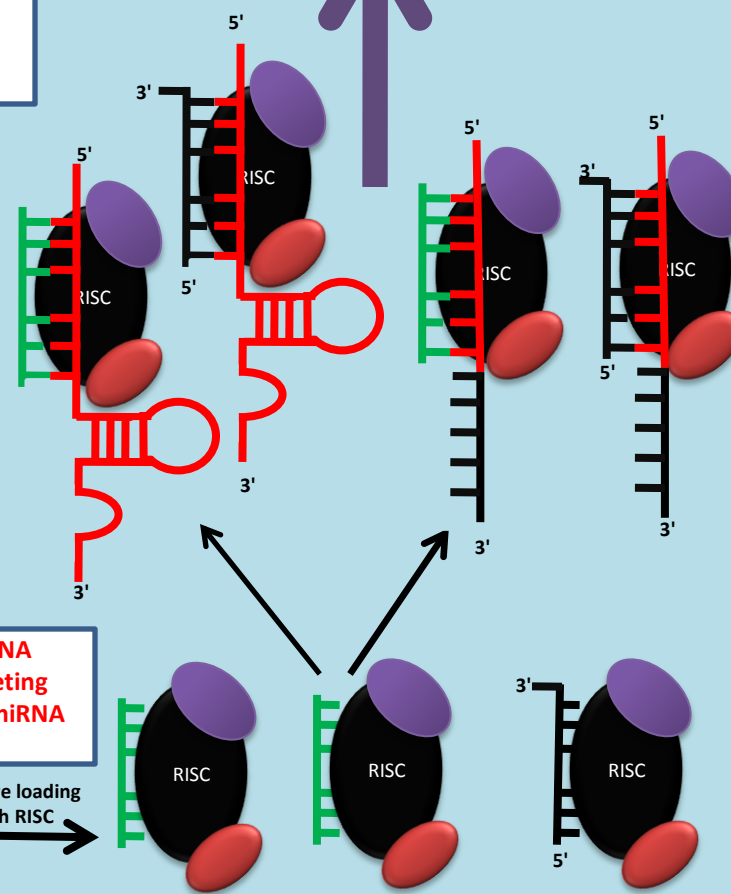


Active loading
with RISC

miRNA mimics



Mature miRNA



5'

3'

5'

3'

5'

3'

5'

3'

5'

3'

5'

3'

Mature miRNA

Target mRNA Binding Proteins

Decoy
Activity

Under Expression of Oncogenic mRNAs
e.g. Ras, Bcl2, c-myc, FLI1, DNMT3A, Axl
Reduced cell viability, cell growth, colony
formation, migration & invasion
Increased chemosensitivity