

## ASU fact sheet Synthetic nucleic acid guidance document

Arizona State University's Institutional Biosafety Committee, or IBC, has developed guidance in response to federal requirements to assist researchers in determining whether their synthetic nucleic acid activities are subject to the March 2013 National Institutes of Health's, or NIH [Guidelines for Research Involving Recombinant or Synthetic Nucleic Acids](#) NIH Guidelines.

Recombinant and synthetic nucleic acid molecules are defined as (i) molecules that a) are constructed by joining nucleic acid molecules and b) can replicate in a living cell, i.e. recombinant nucleic acids; (ii) nucleic acid molecules that are chemically or by other means synthesized or amplified, including those that are chemically or otherwise modified but can base pair with naturally occurring nucleic acid molecules, i.e. synthetic nucleic acids; or (iii) molecules that result from the replication of those described in (i) or (ii) above.

Principal Investigators are encouraged to consider all aspects of their research and then answer the questions listed in the table below. If the answer to any question is "Yes" or "Unknown" then an IBC disclosure is required. If the answers to all the questions are "No," then an IBC disclosure is not required.

Question	Yes	No	Unknown
1. Are the synthetic nucleic acids capable of coding for any portion of a <a href="#">Select Agent or Toxin</a> ?			
2. Are synthetic nucleic acids capable of replicating in a cell?			
3. Will the synthetic nucleic acids be modified to make them capable of penetrating a cell membrane?			
4. Will the synthetic nucleic acids be inserted into a cell (other than siRNA or shRNA)?			
5. Are there concerns that the synthetic nucleic acids will present an adverse risk to humans, animals, plants or the environment?			

The IBC disclosure form is available on the IBC [website](#). Please contact the [IACUC/IBC coordinator](#) if you have any questions regarding the IBC application process.

Questions regarding biosafety or biosecurity at ASU should be directed to the [Institutional Biosafety Officer](#).

Please keep a copy of this determination table for your records.