MYCOPLASMA FACTS

DANGERS OF CONTAMINATION IN CELL CULTURE LABS

Mycoplasma was first detected and isolated from cell cultures in

1956

180+ DIFFERENT MYCOPLASMA SPECIES HAVE BEEN IDENTIFIED

TODAY, AT LEAST **20** DISTINCT SPECIES OF MYCOPLASMA HAVE BEEN ISOLATED FROM CONTAMINATED CELL CULTURES

95% OF CELL CULTURE CONTAMINATION IS MADE UP OF ONLY 6 SPECIES

- M. orale
- M. hyorhinis
- M. arginini
- M. fermentans
- M. hominis
- A. laidlawii

DID YOU KNOW?

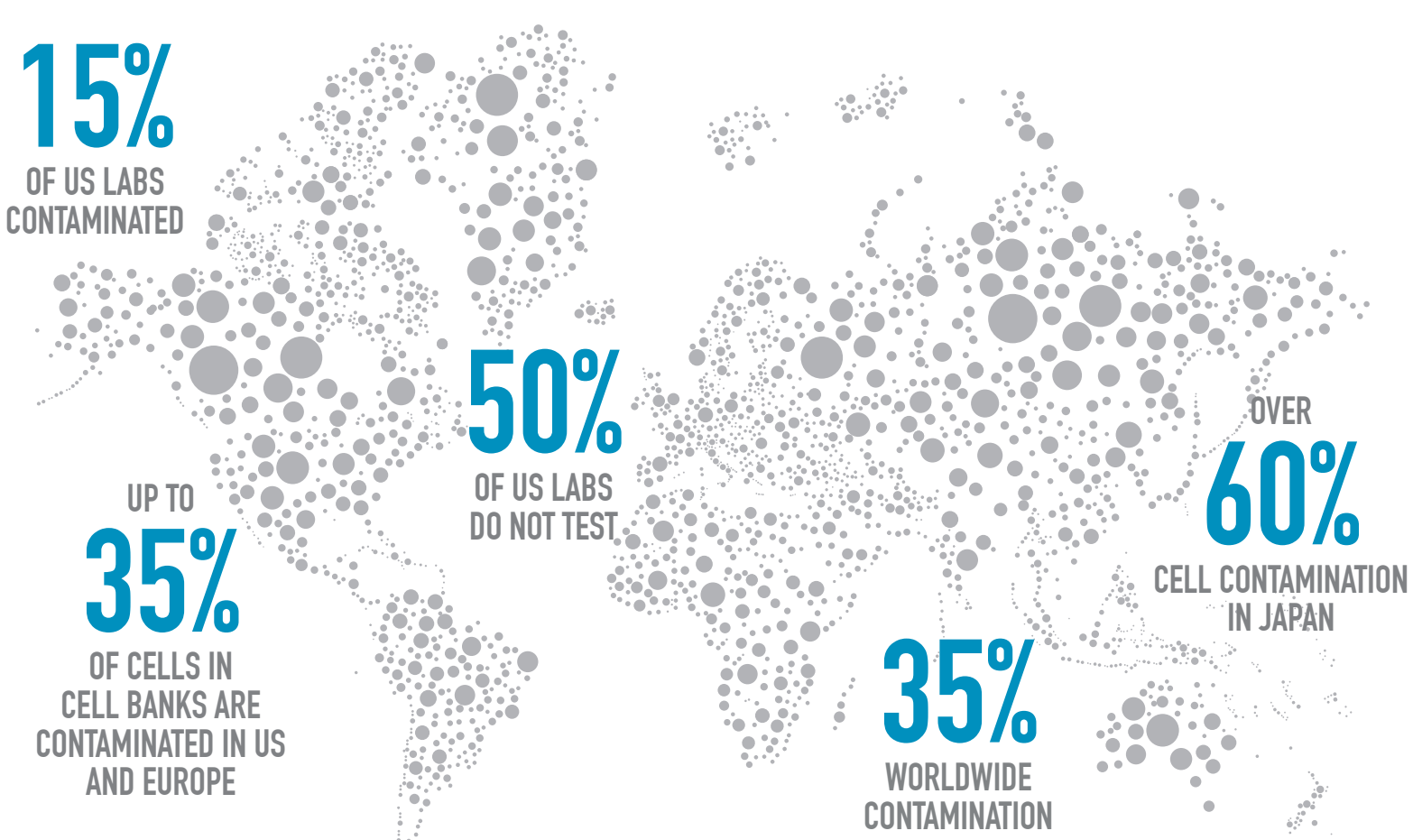
THE MOST COMMON MYCOPLASMAS THAT CONTAMINATE CELL CULTURES ORIGINATE FROM **HUMAN, BOVINE, AND SWINE**

UP TO **1,000** MYCOPLASMA CELLS CAN ATTACH TO AN INFECTED CELL AT ANY GIVEN TIME

EACH MYCOPLASMA CELL CAN GROW TO **1,000,000** CFU'S PER ML OF CONTAMINATED MEDIA IN ONLY **3** DAYS

(CFU = colony forming unit)

DO YOU TEST FOR MYCOPLASMA?



80.6% of **LAB TECHNICIANS** are carriers of mycoplasma

38% OF LAB TECHS SPREAD MYCOPLASMA BY **SNEEZING**

6% OF LAB TECHS SPREAD MYCOPLASMA BY **TALKING**

OTHER SOURCES OF CONTAMINATION:

- Water baths
- Sera
- Feeder cells
- Liquid nitrogen tanks
- Other contaminated cultures
- Used pipettes

TOP 5 REASONS TO TEST:

1. LOSS OF TIME AND MONEY
2. INVALID SCIENTIFIC DATA
3. MISLEADING OR RETRACTED PUBLICATION
4. LOSS OF CELL LINES
5. CONTAMINATION BETWEEN LABS

PREVENTION TIPS

ROUTINELY TEST EVERY **2 WEEKS TO 3 MONTHS** DEPENDING ON CELLS IN THE LAB

- ALWAYS PRACTICE GOOD STERILE TECHNIQUE
- EXAMINE AND SCREEN YOUR CELLS OFTEN
- AVOID TALKING OVER YOUR CELLS

QUARANTINE ALL NEW CELL CULTURES AND ANIMAL PRODUCTS ENTERING LAB

USE PCR-BASED OR DNA STAIN TESTS

EASY · RELIABLE · SENSITIVE · COST-EFFECTIVE · FAST · EFFICIENT

BI Biological Industries *Culture of Excellence*

This infographic has been produced solely for informational purposes only. Please note that data has been extracted from various publications and sources, and not all contextual evidence may be represented.

Sources: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3463982/, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3584481/, http://www.nature.com/nprot/journal/v5/n5/full/nprot.2010.43.html, http://en.wikipedia.org/wiki/Mycoplasma, http://csmedia2.corning.com/LifeSciences/Media/pdf/cccontamination.pdf; http://www.intechopen.com/books/biomedical-tissue-culture/contamination-of-tissue-cultures-by-mycoplasmas

www.bioind.com