# Antibiotics residues in egg

# What is antibiotic?

A medicine fight bacterial infections in animal and human either by killing the microorganism (bactericidal) or keeping them from proliferation themselves (bacteriostat.

# What are the sources of antibiotics?

Antibiotics are produced naturally by one microorganism or produced synthetically or semi synthetically in the laboratory.

What are 4 routes methods by which you may administer antibiotics to animals?

Antibiotics could be injected intravenously, intramuscularly, subcutaneously or administered orally

# What are uses of antibiotics?

Antibiotics are generally used on farms animals for different functions include:

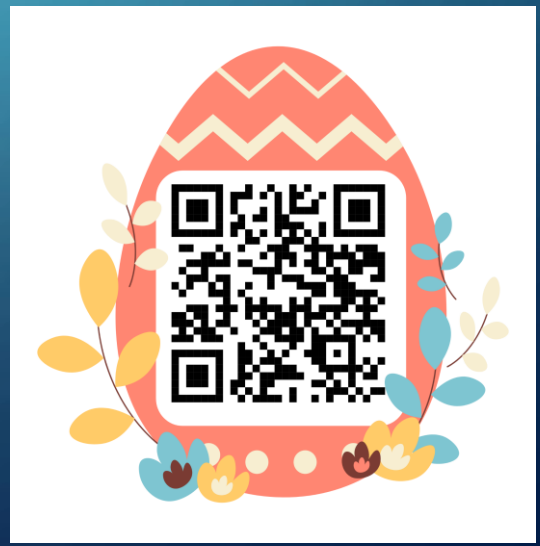
**Antibiotics as therapy:** Exposure of animal to high dose of antibiotic for relatively shorter periods

**Antibiotics as prophylaxis:** exposure of animal to moderate dose of antibiotic for longer time durations

**Antibiotics as growth promoters:** exposure of animal to a low dose of antimicrobial for a very long duration or throughout the entire lifespan of the animals. Antibiotic growth promoters are inhibited the gut bacteria leaving more nutrients for animal to be absorbed for greater growth

# What are the common antibiotics classes used in chicken farming?

- Penicillines
- Tetracyclines
- Macrolides
- Aminoglycosides
- Fluoroquinolones
- Sulfonamides



| Antibiotic | Derivatives | Mechanism of action | Indications | Recommended withdrawal time |
|---|---|---|---|---|
| Macrolide | Tylosin<br>Tilmicosin | Binding to the 50S subunit of the bacterial ribosome and inhibiting translocation of peptidyl-tRNA from the A site to the P site | Mycoplasmosis<br>Necrotic Enteritis<br>Ornithobacterium rhinotracheale | Tylosin:8 days<br>Tilmicosin : 10 days |
| Aminoglycosides | Neomycin Streptomycin<br>Spectinomycin<br>Gentamicin | Binding to the 30S subunit of the bacterial ribosome and inhibiting translocation of fMet-tRNA. | Enterobacter<br>Salmonella<br>Shigella<br>Pseudomonas aerugino | |
| Fluoroquinolones | Enrofloxacin<br>Danofloxacin<br>Flumequine<br>Norfloxacin<br>Difloxacin | Inhibiting DNA synthesis by promoting cleavage of bacterial DNA in the DNA-enzyme complexes of DNA gyrase and type IV topoisomerase | Salmonellosis<br>Colibacillosis<br>Fowl cholera<br>Pseudomonas aeruginosa (enrofloxacin) | Several days |
| Tetracyclines | Chlortetracycline<br>Oxytetracycline<br>Doxycycline | Binding to the 30S subunit of the bacterial ribosome and preventing binding to those ribosomes of aminoacyl transfer-RNA. | Mycoplasma, Chlamydia, Pasteurella, Ornithobacterium rhinotracheale, Clostridium spp., Spirochetes and some protozoa | |
| Sulfonamides | Sulfacetamide, sulfamethoxypyridiazine, sulfamethoxydiazine, sulfamethoxazole, sulfadimidine, suflamethoxine, sulfadiazine, sulfafurazole, | Inhibiting utilization of resemble p-aminobenzoic acid (PABA), and hence DHF synthesis. | | |

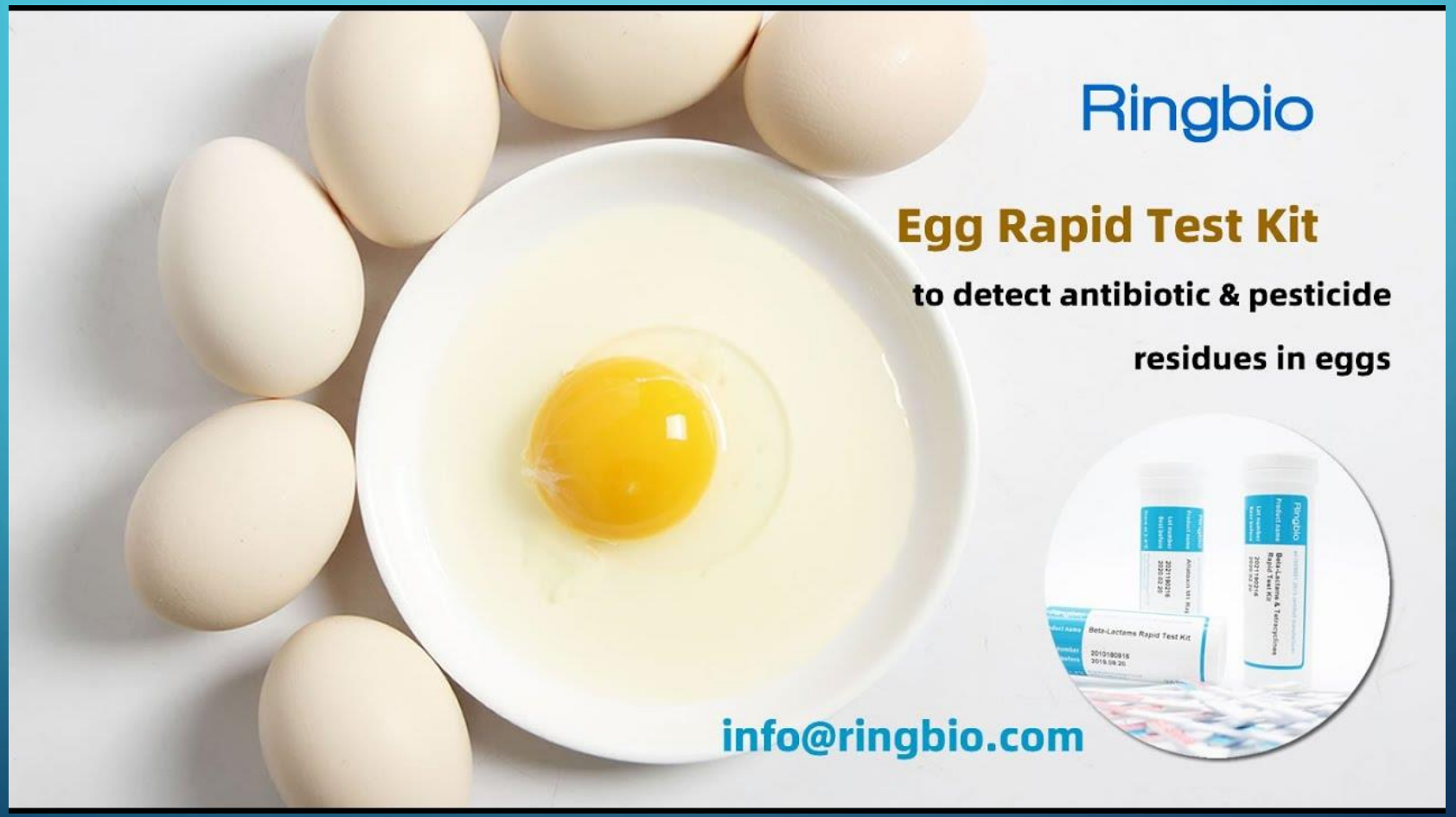
Medications that disappeared rapidly from the body also disappear from egg white in 2-3 days and from yolk in 10 days after cessation of exposure

What is the impact of antibiotic residues found in egg on human health?

Antibiotic residues can cause:

- An allergic reaction
- Imbalance of intestinal microbiota
- Development of resistance bacteria against antibiotics

# How can detect the antibiotic residues in egg?


Ringbio
Egg Rapid Test Kit
to detect antibiotic & pesticide
residues in eggs
info@ringbio.com

# What are routs of egg contamination

- Vertical transmission

The yolk and albumen eggs come into direct contact with the bacterial agent through the ovaries or lower regions of the oviduct and the vagina

- Horizontal transmission

In the horizontal transmission, transmission takes place through broken egg due to the interaction with dust, feces and soil from caging material and transportation