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EGG YOLK IMMUNOGLOBULINS USED AS ADDITIVES IN MEAT QUALITY

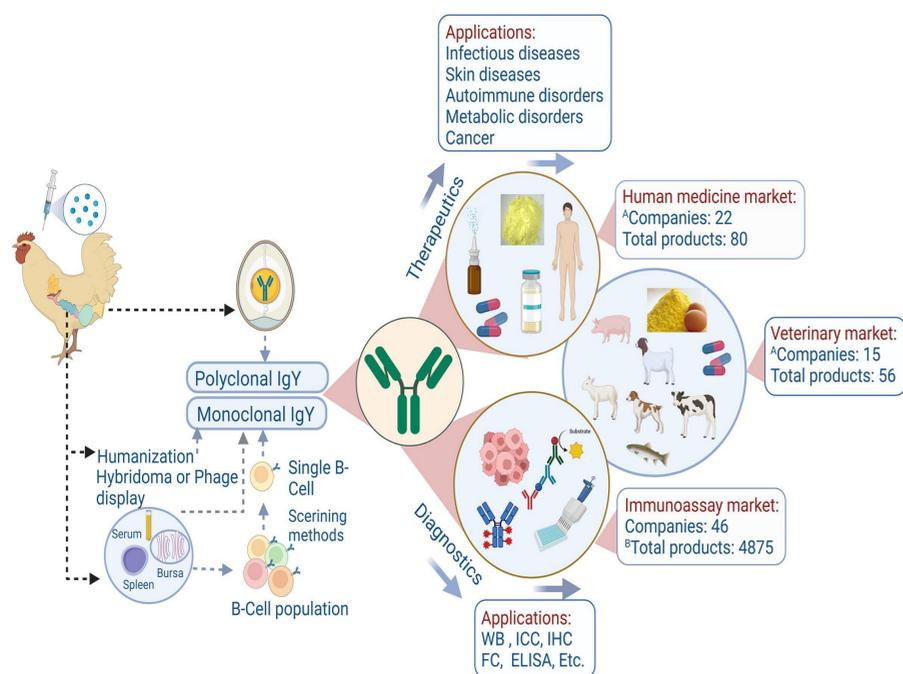
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Abstract: The quality of food and feed is more and more in the first place of research, being tightly related to the health state of humans and animals. Due to these features, antibiotics used in animals are no longer agreed to be used, and natural supplements are encouraged to be used to increase the meat's nutritional quality. One of the natural immunoglobulins used as a replacement for antibiotics is egg yolk immunoglobulin Y (IgY), which is added in diet supplementation for feeding animals. The combination of probiotics and other substances with an immunological role, especially some natural immunoglobulins - such as IgY, has multiple advantages.

• **Introduction:** The use of antibiotics in feed for growth and disease prevention in animal production has come under close scrutiny in recent years. Because the erroneous use of antibiotics in animal feed has led to problems with drug residues in animal products, as well as increased bacterial resistance.

• IgY Technology



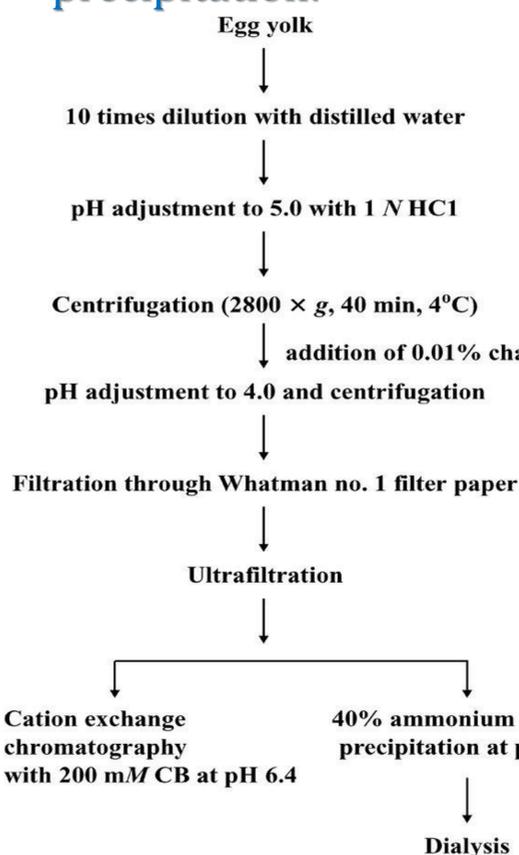
(Yakhkeshi et al., 2022, Trends in industrialization and commercialization of IgY technology, Front. Immunol. 13:991931)

• Extraction methods for natural immunoglobulin IgY from egg yolk:

- ✓ dextran blue,
- ✓ polyethylene glycol,
- ✓ chloroform, and
- ✓ cryo-ethanol treatment followed by precipitation with ammonium sulfate.

Alternatively, hen egg yolk (IgY) antibodies have attracted considerable attention as a possible alternative to antibiotics, in order to maintain good health of animals and also to improve livestock performance. Thus, oral administration of IgY offers many advantages, namely: cost-effectiveness, convenience and high yield.

• IgY extraction using ammonium sulphate precipitation:



• Conclusions:

Advantages of IgY utilization in animal farming:
✓ increased meat production,
✓ improve the immunological status of animals which decreases the stress effects,
✓ improve infection resistance,

• Conclusions (continue):

- ✓ increase the quality of carcasses – which implicitly also leads to economic growth,
- ✓ obtaining animal products without the addition of antibiotics or growth stimulants,
- ✓ obtaining organic products.