

OEM-Same antibody in many catalogs

The Antibody Society Webcast series - Antibody Validation #3

Dr. Jan Voskuil - Director of Aeonian Biotech Ltd

ANTIBODY
SOCIETY

Where do antibodies come from?

- OEM: **O**riginal **E**quipment **M**anufacturer. In this context:
- Antibodies manufactured by third parties sold to the big vendors for rebranding
- Consequence: same antibody on the market under different brands.

Advantages:

- Many choice in one catalog
- Saving time shopping around
- Vendors and manufacturers both benefit
- Large brand has a reputation to uphold
- Brand stability

Disadvantages:

- Origin undisclosed
- Risk of missing out on a great antibody from a smaller catalog not sold to other vendors
- Data can be misleading when batches change
- Each catalog may add extra „own data“ to product sheet to make product look different
- Risk of testing the same antibody from different brands
- Brands buying from each other → same product featured more than one time in same catalog

How do antibodies to the same protein differ?

- Antiserum, affinity purified IgG, monoclonal-conditioned media, purified monoclonals.
- Definition of the antigen (entire protein, domain, short fraction, peptide)
- Host species (chicken, hamster, mouse, rat, rabbit, goat, camelids)

Antigens:

- High abundance proteins make great versatile antibodies
- Low abundance/unstable proteins make antibodies fit for one or few applications
- Conserved proteins make cross-reactive antibodies
- PTM antibodies may not be protein-specific
- Some proteins fail to generate good antibodies, yet many on offer in the market.

Performance parameters:

- Titre (one needs further dilution than the next)
- Batch-to-batch inconsistency (animal-to-animal)
- Storage, handling and transport
- Versatility of polyclonals often underappreciated
- Specificity of monoclonals often misunderstood.
- Antibodies to functional sites may not work on denatured targets.
- Antibodies to denatured sites may not work on functional targets.

Summary

- Avoid the risk of buying the same antibody from different sources.
- Choose the right type of antibody for the right application
- When confused, seek expert assistance

Read more on the subject:

Voskuil (2014) Commercial antibodies and their validation, [F1000Res. 3:232](#).