Previous Approaches to Monoclonal Antibody Nomenclature

In all the previous approaches to monoclonal antibody nomenclature, the -mab suffix was used to designate a monoclonal antibody. This suffix applied to unmodified and engineered monoclonal antibodies, monoclonal antibody fragments, and multi-immunoglobulin (e.g., bispecific) antibodies.

Many healthcare providers and members of the public may be familiar with the names for antibodies based on these older schemes. Examples include:

- Bamlanivimab
- Etesevimab
- Infliximab
- Atezolizumab
- Pembrolizumab

2017-2021

The USAN Program and INN Experts revised the monoclonal antibody nomenclature scheme in 2017 to introduce greater variation in the infixes of monoclonal antibody names while retaining the -mab stem. At that time, over 350 monoclonal antibodies had been named, and dozens were marketed. The growing number of names ending in -mab increased the odds that two monoclonal antibody names would look and sound alike, and this problem grew between 2017-2021 as the use of -mab continued.

Eliminating the source infix reduced the number of required, or fixed, syllables in the name. This allowed for longer and more varied prefixes, reducing the risk of LASA errors and allowing the continued use of -mab.

This scheme replaced the 2011-2017 monoclonal antibody nomenclature scheme.

Sequence of Stems and Infixes. The key elements of a monoclonal antibody name appeared in the following order:

1. **Prefix** The prefix differentiated individual monoclonal antibodies from other members of the same class. Most monoclonal antibody names adopted between 2017 and 2021 had prefixes that were 2 or 3 syllables long.

2. **Target Infix** The target infix placed information about action or use in the name. USAN/INN approved specific syllables to denote diseases or targets. The choice of infix was determined using available information regarding initial clinical indications and action.

    -ami- serum amyloid protein (SAP)

    -ba- bacterial

    -ci- cardiovascular

    -d(e) endocrine targets

    -fung- antifungal

    -gros- skeletal muscle mass related growth factors and receptors

    -ki- interleukins

    -li- immunomodulating (included checkpoint inhibitors for oncology indications)

    -ne- neural

    -os- bone

    -ta-, tumors

    -toxa- toxins

    -vet- veterinary, could be used with an additional infix to further specify the indication or target

    -vi- viruses, antiviral indications

3. **Stem** used as a suffix

    -mab
    The suffix -mab was used for monoclonal antibodies, antibody fragments and radiolabeled antibodies.

2010-2017

The corresponding INN policy to this iteration of the USAN nomenclature Scheme is here.

In 2011, the infixes were shortened to allow for longer prefixes and greater differentiation of names. At the time, the number of monoclonal antibodies had grown to approximately 240 named compounds.

1. Prefix The 2011-2017 nomenclature scheme recommended the use of 2-syllable prefixes

2. Infix representing the target or disease

-tu-/-t- tumors (oncology indications)

-li-/-l- immunomodulators

-ba-/-b- bacterial

-ci-/-c- cardiovascular

-fu-/-f- antifungal

-gr(o)- skeletal muscle mass related growth factors and receptors

-ki-/-k- interleukins

-ne-/-n- neurons as targets

-so-/-s- bone

-vi-/-v- viruses

3. Infix indicating the source

-xi- chimeric, typically contained a foreign or synthetic variable domain and a human constant region

-zu- humanized, typically the complementarity determining regions (CDR) of the variable domain were non-human and the remainder of the chain was of human origin

-xizu- humanized/chimeric, combination of humanized and chimeric chains

-u- human, typically the entire antibody was of human origin

-o- mouse

-axo- rat/mouse chimer (infrequently used)

-e- hamster (infrequently used)

-a- rat (infrequently used)

-i- primate (infrequently used)

4. **Stem (or suffix)**

-mab

This suffix was used for monoclonal antibodies, antibody-drug conjugates, antibody fragments and radiolabeled antibodies.

Before 2011

Healthcare providers may be familiar with pre-2011 monoclonal antibody nomenclature scheme because many early monoclonal antibodies are still widely available. Infixes specific to different types of tumors (breast cancer, colon cancer, etc.) were part of the antibody nomenclature scheme before 2010, but these were seldom (if ever) used. Prior to 2010, many source/target infixes were three or even four letters long.

1. Prefix The prefix was intended, as for all USAN/INN names, to differentiate an antibody from other members of its class and followed the USAN rules for coining names.

2. Infix representing the target or disease

-tu(m)- tumors (oncology indications)

-li(m)- immunomodulators

-les- lesions

-ba(c)- bacterial

-ci(r)- cardiovascular

-mu(l)- musculoskeletal

-fung- antifungal

-ki(n)- interleukins

-ne(ur)-, -ne(r)- neurons as targets

-vi(r)- viruses

-co(l)- colon cancer (discontinued 2010)

-go(v)- ovarian cancer (discontinued 2010)

-ma(r)- breast cancer (discontinued 2010)

-pr(o)- prostate cancer (discontinued 2010)

-me(l)- melanoma (discontinued 2010)

3. Infix indicating the source

-xi- chimeric, typically contained a foreign or synthetic variable domain and a human constant region

-zu- humanized, typically the complementarity determining regions (CDR) of the variable domain were non-human and the remainder of the chain was of human origin

-u- human, typically the entire antibody was of human origin

-o- mouse

-axo- rat/mouse chimer (infrequently used)

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