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Look people, "Atg" is an abbreviation for "autophagy-related." That's it.

Daniel J. Klionsky

Life Sciences Institute; University of Michigan; Ann Arbor, MI USA

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Prior to the adoption of the unified nomenclature for naming autophagy-related genes and proteins there were at least ten different names being used in fungal systems. Accordingly, in 2003 the majority of the researchers (at that time) working in fungal autophagy decided it would be advantageous to agree on a single name so that it was no longer necessary to search through the literature (or hope that the authors of the paper you were reading would inform you) to determine that *APG1* was the same gene as *AUT3*, *CVT10*, *GSA10*, *PAZ1* or *PDD7*—this gene now has a standard name of *ATG1*.[1] This nomenclature has been adopted in most other eukaryotic systems, further simplifying the naming of these genes and proteins. As noted in the nomenclature paper, "*ATG*" and "Atg" stand for "autophagy-related" gene or protein, respectively. That is, "*ATG*" means "autophagy-related," and that is it. It does not mean "autophagy-related gene" or "autophagy-related protein." The abbreviation derives from just the first word, autophagy, as in AuTophaGy-related.

It does not make sense for "*ATG*" to represent "autophagy-related gene;" otherwise, when people refer to an "*ATG* gene" this would translate into "autophagy-related gene gene," which sounds rather absurd. Similarly, "Atg" does not represent "autophagy-related protein" when referring to a protein, for obvious reasons; otherwise, the "Atg1 protein" would be spelled out as "autophagy-related protein 1 protein," which seems a little redundant. So, "*ATG*" and "Atg" are simply abbreviations for "autophagy-related." If you want to say "autophagy-related gene" or "autophagy-related protein," you can use "*ATG* gene" or "Atg protein." Note that I am not going to cite incorrect examples of the use of these abbreviations because there are far too many. Also, I am using the capitalization that applies to yeast in these examples. If I was referring to humans the abbreviations would be "*ATG*" and "ATG" for the gene and protein, respectively, or "*Atg*" and "ATG" for the mouse system.[2]

That said, while we are on the subject of names, "Cvt" is an abbreviation for "cytoplasm to vacuole targeting" (or "cytoplasm-to-vacuole targeting," with dashes).[3] "Cvt" does not stand for "cytoplasm-to-vacuole,"[4,5] which ignores the letter "t." It also does not stand for "cytosol-to-vacuole-targeting,"[6] "cytoplasm to vacuole (cvt) trafficking,"[7] or "cytoplasm-to-vacuole transport."[8] In a similar vein, the abbreviation "TAKA" when used to refer to the TAKA assay is an abbreviation for "transport of Atg9 after knocking out *ATG1*."[9] "TAKA" does not stand for "take Atg1 kinase away,"[4] or any other permutations you might be able to come up with.

A final note about nomenclature concerns the Atg12 conjugation complex. Both Atg12 and Atg8 are unusual in that they become covalently attached to another molecule. Noncovalent interactions are typically indicated with a standard dash "-" as in "Atg1-Atg13." To denote the covalent attachment we use an en dash "–" as in "Atg8–PE" as opposed to "Atg8-PE". Now, going back to the Atg12 complex, Atg16 binds Atg5 directly, not Atg12. Thus, it makes sense to write this as "Atg5-Atg16" using a standard dash. One could write "Atg16-Atg5," but in general we list the lower number first unless we are trying to indicate something specific about the interactions (as with "Atg17-Atg31-Atg29" because Atg29 appears to interact with Atg31 directly, and not with Atg17). So, where is "Atg12" added to this interaction? If we agree on the order "Atg5-Atg16," there is only once choice, and that is "Atg12–Atg5-Atg16" because Atg12 is covalently attached to Atg5 (note the use of the en dash between these two proteins) and not Atg16. Therefore, please use the correct designations of "Atg12–Atg5" and "Atg12–Atg5-Atg16" and not "Atg5-Atg12,"[10-17] "Atg5/Atg12,"[18] "ATG5/ATG12,"[19] "Atg5-Atg12/Atg16,"[20] "Atg5-Atg12/Atg16L1,"[21] "ATG16/ATG5/ATG12"[19] or "Atg5-Atg12-Atg16"[15] (I am citing some arbitrary examples where the incorrect nomenclature was used, but I could list many more).

Thus, if you want to use these abbreviations correctly, consider the definitions as explained here. Alternatively, take a look at "A comprehensive glossary of autophagy-related molecules and processes"[22] (the second edition).

Correspondence to: Daniel J. Klionsky; Email: klionsky@umich.edu
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