

EDITORIAL



HGNC nomenclature for fusion genes

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Readers of *LEUKEMIA* will know the fusion gene created by juxtaposing *BCR* to *ABL1* by chromosome translocation causes chronic myeloid leukemia (CML), some cases of acute lymphoblastic leukemia (ALL) and rare cases of acute myeloid leukemia (AML). Similarly, juxtaposition of *IGH* and *MYC* is the driver mutation of some lymphomas. What is controversial is how these fusion genes should be designated. Until now the nomenclature varied with each scientist choosing their favorite designator, mostly a backward slash (/) or hyphen (-). In the typescript by Bruford and co-workers in this issue of *LEUKEMIA* [1] a group of experts under auspices of the Human Genome Organization's (HUGO) Gene Nomenclature Committee (HGNC) proposes using double colons (::) as the official designation for fusion genes. These may be written in italics or not, Examples are *BCR::ABL1* and *IGH::MYC*. *BCR*, *ABL1*, *IGH* and *MYC* as human genes are always written in capitals and italics without additional symbols or punctuation. HGNC also proposes these gene juxtapositions be termed *fusion genes*. Other designations, some preferred by students of ancient Greek or orientated to haemopoietic cell transplants such as *chimeric genes*, are also acceptable.

As *LEUKEMIA* Editors we strongly support the HGNC recommendation and request authors use the HGNC nomenclature in future submissions to *LEUKEMIA* and other journals. The goal of HUGO and HGNC is to provide unique symbols and names for human gene loci including protein coding genes, non-coding RNA genes and pseudogenes with the purpose of unambiguous scientific communication. Surely a noble objective.

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REFERENCE

1. Bruford EA, Antonescu CR, Carroll AJ, Chinnaiyan A, Cree IA, Cross NCP, et al. HUGO Gene Nomenclature Committee (HGNC) recommendations for the designation of gene fusions. *Leukemia*. 2021; <https://doi.org/10.1038/s41375-021-01436-6>.

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COMPETING INTERESTS

RPG is a consultant to BeiGene Ltd., Fusion Pharma LLC, LaJolla NanoMedical Inc., Mingsight Pharmaceuticals Inc., CStone Pharmaceuticals, NexImmune Inc. and Prolacta Bioscience; advisor to Antengene Biotech LLC, Medical Director, FFF Enterprises Inc.; Partner, AZCA Inc.; Board of Directors, Russian Foundation for Cancer Research Support; and Scientific Advisory Board: StemRad Ltd.

ADDITIONAL INFORMATION

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