ISCN Symbols and Abbreviated Terms

Symbols and abbreviated terms used in the description of chromosomes and chromosomal abnormalities are listed below. For a detailed discussion of these terms, consult ***ISCN (1995): An International System for Human Cytogenetic Nomenclature,*** Mitelman, F (ed); S. Karger, Basel, 1995.

Consider the following when searching for chromosomal abnormalities:

add	additional material of unknown origin
approximate sign (~)	denotes intervals and boundaries of a chromosome segment or number of chromosomes, fragments, or markers; denotes a range of number of copies of a chromosomal region when the exact number cannot be determined
arr	microarray
arrow (-> or →)	from - to, in detailed system
brackets, square ([ ])	surround number of cells or genome build
cen	centromere
cgh	comparative genomic hybridization
chr	chromosome
cht	chromatid
colon, single (:)	break, in detailed system
colon, double (::)	break and reunion, in detailed system
comma (,)	separates chromosome numbers, sex chromosomes, and chromosome abnormalities, seperates locus designations
cp	composite karyotype
decimal point (.)	denotes sub-bands
del	deletion
der	derivative chromosome
dic	dicentric
dn	designates a chromosome abnormality that has not been inherited (de novo)
dup	duplication
fra	fragile site
h	heterochromatin, constitutive
hmz	homozygous, homozygosity; used when one or two copies of a genome are detected, but previous, known heterozygosity has been reduced to homozygosity through a variety of mechanisms, e.g. loss of heterozygosity (LOH)
hsr	homogeneously staining region
htz	heterozygous, heterozygosity
i	isochromosome
idic	isodicentric chromosome
ins	insertion
inv	inversion
mar	marker chromosome
mat	maternal origin
mos	mosaic
p	short arm of chromosome
parentheses ( )	surround structurally altered chromosomes and breakpoints; surround chromosome numbers, X, and Y in normal and abnormal results; surround coordinates (or nucleotide positions) in abnormal result
pat	paternal origin
ps	satellited short arm of chromosome
pter	terminal end of the short arm
q	long arm of chromosome
qter	terminal end of the long arm
question mark (?)	questionable identification of a chromosome or chromosome structure
r	ring chromosome
rec	recombinant chromosome
rob	robertsinian translocation
s	satellite
sce	sister chromatid exchange
sdl	sideline
seq	sequencing
slant line, single (/)	separates clones, or contiguous probes
stk	satellite stalk
subtel	subtelomeric region
t	translocation
tas	telomeric association
ter	terminal (end of chromsome) or telomere
upd	uniparental disomy
var	variant or variable region

In Situ Hybridization: Symbols and Abbreviations

minus sign (-)	loss; decrease in length; locus absent from a specific chromosome
plus sign, single (+)	additional normal or abnormal chromosomes; increase in length locus present on a specific chromosome
plus sign, double (++)	two hybridization signals or hybridization regions on a specific chromosome
multiplication sign (x)	multiple copies of rearranged chromosomes; designates aberrant polyploidy clones in neoplasias; with number to indicate number of signals seen; multiple copies of a chromosome or chromosomal region
period (.)	separates various techniques
semicolon (;)	separates altered chromosomes and breakpoints in structural rearrangements involving more than one chromosome; seperates probes on different derivative chromosomes
FISH	fluorescence *in situ* hybridization
ish	*in situ* hybridization; when used without a prefix applies to metaphase or prometaphase chromosomes of dividing cells
wcp	whole chromosome paint