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Assignment[a] of the human creatine transporter type 2 (SLC6A10) to chromosome band 16p11.2 by in situ hybridization

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Rationale and significance

The creatine transporter is mediated by two Na^+-dependent carriers, CT-1 and CT-2, which have distinct tissue distributions (Nash et al., 1994; Iyer et al., 1996). The gene encoding CT-1 has been localized to Xq28 by both in situ hybridization and somatic cell hybrids and CT-2 (SLC6A10) has been localized to 16p11.2 by somatic cell hybrids. We have confirmed the chromosome assignment of CT-2 and localized it to 16p11.2 by in situ hybridization.

Materials and methods

Human metaphase cells were prepared from phytohemagglutinin-stimulated lymphocytes and FISH was performed as described previously (Xu et al., 1993). Hybridization of biotin-labelled probe was detected with Texas red-conjugated avidin. Chromosome bands were revealed by DAPI-banding and images were captured using a Zeiss Axioskop microscope equipped with a CCD camera (Photometrics). Separate images of probe signal and DAPI banding patterns were pseudocoloured and merged using Smart capture software (Vysis Inc., Chicago).

Probe names: pYAC1 (ICRFy900C0778)
pYAC9(ICRFy900E09155)
Probe type: YAC genomic DNA
Insert size: over 100 kb
Vector: pYAC4
Proof of authenticity: PCR and DNA sequencing
Gene reference: Iyer et al. (1996) and this report with EMBL accession number X98569

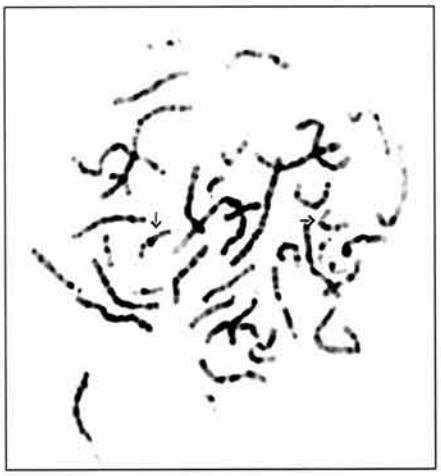

Fig. 1. Regional mapping of SLC6A10 by FISH. A biotin-labelled clone YAC 9 signal detected with Texas Red on DAPI-banded chromosomes. Arrows indicate the chromosome 16p11.2.

Results

Mapping data
Location: 16p11.2
No. of cells examined: 30
Number of cells with specific signal: 2 (10), 4 (20) chromatids per cell
Most precise assignment: 16p11.2
Location of background signals (sites with >2 signals): none observed.

References

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[a] This is confirmation of a gene previously mapped by Iyer et al., 1996.

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