Commentary

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Assignment of LCN1 to human chromosome 9 is confirmed

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We have recently reported the chromosomal location of the gene for human tear lipocalin on band 9q34, using in situ hybridization (Lassagne et al., 1993). This gene, which has been given the HGM symbol LCN1, has been shown by Redl et al. (1992) to be present in a single copy in the human genome.

Human tear lipocalin is secreted by the main lacrimal gland (Lassagne and Gachon, 1993). It belongs to a group of proteins with a molecular weight of 17–25 kDa; these proteins are able to bind lipophiles by enclosing them within their structure (reviewed recently by Gachon, 1994). Following the publication by Redl's team (Baumgartner et al., 1994), which mapped the same tear prealbumin gene to chromosome 8, we decided, at the suggestion of the HGM Nomenclature Editor, to try to explain this discrepancy. Using a panel of hybrid cell lines that had been generated and characterized by Nguyen et al. (1986), we mapped the human LCN1 gene to chromosome 9, supporting the previous conclusion of Lassagne et al. (1993) that the probe, representing the gene in question, maps to chromosome 9. These results confirm the localization, via somatic cell hybrid analysis, of the same tear lipocalin gene by Glasgow et al. (1993), although these workers did not use the gene symbol LCN1.

The genes encoding five other members of the lipocalin family are located in the same region of chromosome 9, viz., orosomucoid (ORM), the α -microglobulin/bikunin precursor (AMBP), the prostagen-associated endometrial protein (PAEP), the γ chain of complement component C8 (C8G), and prostaglandin D synthase (PGDS). Recently, Chan et al. (1994) predicted that the human neutrophil gelatinase-associated lipocalin gene (NGAL) also maps to 9q34.

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