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Letter to the Editor

Selectins: A Family of Adhesion Receptors

Recent data have shown that a group of cell surface proteins, originally studied independently as lymphocyte homing receptors or as activation-induced surface proteins of platelets and/or endothelial cells (Stoolman, 1989) are structurally related. Each is an integral membrane protein with an N-terminal, C-type lectin domain followed by an EGF-like module, multiple copies of the consensus repeat units characteristic of complement-binding proteins, a transmembrane segment, and a short cytoplasmic domain. The three known proteins having this structure are encoded by closely linked genes on the long arm of human and mouse chromosome 1 (Watson et al., 1990). The gene structures are related, and the genes clearly arose by gene duplication.

These proteins are all involved in cell–cell adhesion events and constitute a new family of cell adhesion receptors. A wide variety of names are used to designate these proteins, owing to their independent discovery by different laboratories working in several fields. This diversity of nomenclature interferes with the dissemination of information about these proteins. After consultation among the researchers working on these proteins and other scientists, we propose that this family of proteins be named **selectins** to reflect the involvement of carbohydrate recognition in their functions. Individual members of the family will be designated by a prefix capital letter, as is done for the cadherins (e. g., E-, N-, P-). Letters can be chosen based on the source of the original discovery but are not intended to imply cell type specificity.

The three known selectins are:

L-selectin
(GENEMBL accession numbers: human M25280, X16070, X16150; mouse M25324, X14772), previously known as the lymph node homing receptor LEC.CAM-1, LECAM-1, LAM-1, or the MEL-14, Leu-8, TQ1, and DREG.56 antigens originally described on lymphocytes. (The majority of participants in an earlier poll concerning suggested nomenclature for this protein now support the use of the nomenclature proposed here.)

P-selectin (CD62)
(GENEMBL accession number: human M25322), previously known as GMP-140 or PADGEM, which was originally detected as a protein on activated (but not inactivated) platelets and is also expressed by activated endothelial cells.

E-selectin
(GENEMBL accession numbers: human M24736, M30640), previously known as ELAM-1, which was originally detected on the surfaces of activated endothelial cells.

We suggest that all future publications concerning these proteins should use these names (and CD numbers when they exist) to facilitate communication of data both within the field and more generally.

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