



BAY 43-9006

Glossary of Terms

Angiogenesis - The body's normal process of blood vessel formation. **Tumor angiogenesis** is the growth of blood vessels from surrounding tissue to a solid tumor. This is caused by the release of chemicals by the tumor.

Angiogenesis inhibitor - A therapeutic substance that may prevent the formation of blood vessels. In anticancer therapy, an angiogenesis inhibitor may prevent the growth of blood vessels from surrounding tissue to a solid tumor.

Anti-angiogenesis - A process occurring at the cellular level in the body, by which the growth of new blood vessels is prevented.

BAY 43-9006 - A novel RAF kinase and VEGFR inhibitor that is intended to prevent tumor growth by combining two anticancer activities: inhibition of tumor cell proliferation and tumor angiogenesis.

Blood cells - Structures produced in the bone marrow; they consist of red blood cells, white blood cells, and platelets.

Blood vessel - A tube through which blood circulates in the body. Blood vessels include a network of arteries, arterioles, capillaries, venules, and veins.

Cell proliferation - An increase in the number of cells as a result of cell growth and cell division.

Oncogene - Genes that promote cell growth and duplication. These genes are normally present in all cells. But oncogenes may undergo changes (mutations) that activate them, causing cells to grow too quickly and form tumors.

PDGF - Platelet-derived growth factor; a substance that stimulates cell proliferation in a normal cell. In cancer, PDGF is involved in both tumor cell growth and angiogenesis.

PDGFR - Platelet-derived growth factor receptor.

Pathway - Any sequence of chemical reactions leading from one compound to another; if taking place in living tissue usually referred to as a signaling pathway.

RAF kinase - An enzyme that is part of a signaling pathway controlling growth and division in normal cells. In cancer, RAF kinase may play a role in tumor angiogenesis and tumor cell proliferation.

RAF kinase inhibitor - A compound that inhibits the enzyme called RAF kinase. BAY 43-9006 is the novel, selective compound designed to block tumor growth by inhibiting the RAF/MEK/ERK signaling pathway.

RAF/MEK/ERK signaling pathway - An important pathway that controls the cell growth process in normal cells. If there is cancer, the RAF/MEK/ERK signaling pathway may play a role in tumor angiogenesis and tumor cell proliferation. The RAF/MEK/ERK is part of the RAS pathway.

RAS pathway - The RAS pathway is a signal transduction cascade. It serves to transduce signals between receptor tyrosine kinases and the cell nucleus. The RAS pathway plays an important role in cell growth and differentiation.

Receptor - A protein or group of associated proteins in a cell or on its surface that selectively binds a specific substance (called a ligand). Upon binding its ligand, the receptor triggers a specific response in the cell.

Tyrosine kinase inhibitor - A compound that inhibits enzymes that add phosphate to the amino acid tyrosine in proteins. It interferes with cell communication and growth and may prevent tumor growth. Some tyrosine kinase inhibitors are used to treat cancer.

VEGF - Vascular endothelial growth factor; a substance made by cells that stimulates new blood vessel formation.

VEGFR - Vascular endothelial growth factor receptor. **VEGFR-2** is one of the vascular endothelial growth factor receptors.

Bayer Investor Relations contacts:

Dr. Alexander Rosar (+49-214-30-81013)
Dr. Juergen Beunink (+49-214-30-65742)
Peter Dahlhoff (+49-214-30-33022)
Ute Krippendorf (+49-214-30-33021)
Ilia Kürten (+49-214-30-35426)
Judith Nestmann (+49-214-30-66836)

Sources: <http://www.nci.nih.gov/dictionary>, Medicine Online (meds.com) and Biospace.com, <http://cancerweb.ncl.ac.uk/omd/>, http://www.musckids.com/health_library/oncology/glossary.htm#O