

# CD74 serves as a survival receptor on colon epithelial cells

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CD74 is a protein expressed by cells of the immune system. A research group in Israel finds that CD74 is expressed on colon epithelial cells of mice, as well as on a malignant cell line from mouse colon. Stimulation of CD74 leads to a signaling cascade resulting in cell survival. Thus, CD74 is a survival receptor in health and disease.

CD74 is a protein that is expressed in and on cells of the [immune system](#), such as B lymphocytes and antigen presenting cells. This protein is known for its function in facilitating antigen presentation enabling the [immune response](#).

Additionally, Professor Shachar's lab has previously shown that CD74 serves as a survival receptor on cells of the immune system, and that its stimulation by its natural ligand -migration inhibitory factor (MIF)- prevents apoptosis (self destruction) of these cells. It was shown that CD74 is markedly expressed on numerous tumors - hematologic as well as epithelial, and can serve as a prognostic marker. CD74's expression and function on colon intestinal epithelial cells is controversial.

A research article to be published on July 14, 2010 in the [World Journal of Gastroenterology](#) addresses this question. A team of scientists headed by Professor Idit Shachar from the Weizmann Institute of Science in Israel, has demonstrated that CD74 is expressed on colon epithelial cells. CD74 expression on these cells was shown to increase colon [epithelial cells](#) survival upon stimulation by its natural ligand MIF.

These findings were further supported by their demonstration in the mouse colorectal cancer cell line, CT-26. Stimulation of CD74 expressed on these cells led to Akt phosphorylation and Bcl-2 expression resulting in elevation of cell survival. These findings may open a new target in the research of colorectal cancer.

**More information:** Maharshak N, Cohen S, Lantner F, Hart G, Leng L, Bucala R, Shachar I. CD74 is a survival receptor on colon epithelial cells. World J Gastroenterol 2010; 16(26): 3258-3266  
[www.wjgnet.com/1007-9327/full/v16/i26/3258.htm](http://www.wjgnet.com/1007-9327/full/v16/i26/3258.htm)

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