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## Monocytes and Lymphocytes Differences in Biology Import Concepts Must to Know

Question. Difference Between Monocytes and Lymphocytes.

Answer:

White Blood Cells (WBCs) :

WBC-white blood cells are also called leukocytes or leucocytes. They are cells of the immune system, which is mainly responsible for:

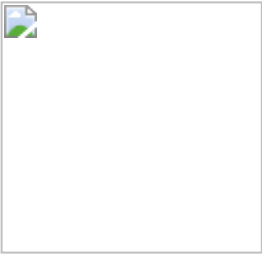

- Protecting and fighting against invading pathogens.
- Stimulates the production of the progesterone hormone
- Play a vital role in the human reproductive system by producing a network of blood vessels within the ovary.

There are different types of white blood cells based on shape and the presence of granules in the cytoplasm. The white blood cells are categorised into two main categories. They are granulocytes and agranulocytes.

- Granulocytes – Neutrophils, eosinophils and basophils.
- Agranulocytes – Lymphocytes and monocytes.

Differentiating Property	Monocytes	Lymphocytes
Definition	Monocytes refer to the large	Lymphocytes refer to a form of small

	phagocytic white blood cells with a simple oval nucleus and clear, greyish cytoplasm.	leucocytes (white blood cells) with a single round nucleus, occurring especially in the lymphatic system.
Amount	Monocytes account for 2 – 8% of circulating white blood cells.	Lymphocytes account for 20 – 30% circulating white blood cells. Hence, this is a major difference between monocytes and lymphocytes.
Size	Monocytes are large.	Lymphocytes are comparatively small.
Shape	Monocytes have a grainy, gritty texture.	Lymphocytes are smooth.
Shape of the Nucleus	The nucleus of monocytes has a complex shape.	The nucleus of lymphocytes is relatively regular.
Significance	The monocytes can invade tissues and become either macrophages or dendritic cells.	Lymphocytes are mainly found in circulation.
Function	Monocytes destroy pathogens through phagocytosis.	Lymphocytes produce antibodies against pathogens.
Type of Immunity	Monocytes are mainly involved in innate immunity.	Lymphocytes are mainly involved in adaptive immunity.
Vacuoles	Presence of Infrequent vacuoles.	Presence of frequent vacuoles.
Cytoplasm	The cytoplasm is cloudy, opaque and blue-grey in colour with fine lilac granules.	The cytoplasm is clear, transparent and sky blue in colour without granules.
Lifespan	The lifespan of circulating monocytes is about 24 hours.	Lymphocytes are long-lived cells which may live for months or years.
Type	Dendritic cells and Macrophages are two types of Monocytes.	B lymphocytes (B cells) and T lymphocytes (T cells) are two types of lymphocytes.
Tools	Monocytes are the tools for Innate Immunity.	Lymphocytes are tools for Adaptive Immunity.

Destroy	Destroy pathogens through Phagocytosis.	Destroy pathogens by producing antibodies.
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Table of Difference between Monocytes and LymphocytesTable of Difference between Monocytes and Lymphocytes		