

# Cytology Formation: “A Neutrophilic Happy New Year”

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December 31 was one of these cold nights when a heavy snow storm hit town. At exactly 11 p.m., when the snow and the cold had pushed all the neutrophils to stay cozy and warm indoors, a group of them gathered in one of the peripheral vessels to have a last chat before the New Year surprised all the hematopoietic stem cell offspring.

Being soldiers of defense, all 16 neutrophils realized that they would soon be recruited to move and fight foreign invaders. The messages from the lymphocytes and macrophages were expected to arrive soon. The neutrophils, with their primary and secondary granules, were as ready as it gets to move in for the attack. The chemokines, cytokines, and other chemical mediators of inflammation were expected soon, and the young neutrophils were getting ready by dressing up with appropriate surface receptors to receive the instructions about their final deployment. They also decided to celebrate the end of 2017 and welcome 2018 with happy smiles on their faces by reshaping their nuclei. They gathered in 3 rows, facing each other, and gave each other a few seconds to speak up and express their wishes for the New Year.

The first row consisted of neutrophils H, A, the identical twins P and P, and Y. They assigned neutrophil H to be their representative speaker. Neutrophil H was very glad to take on the task, and said: “Helping our home to

stay healthy will be our goal” and declared: “All of our myeloperoxidases will devote themselves to being fatal ammunition in any future tug-of-war against any attackers” [1]. Everyone smiled and thanked the first row for their gracious speech and loyalty.

The second row comprised 2 groups of neutrophils; the first line had neutrophils N, E, and W, and the second line had neutrophils Y, E, A, and R. After a short huddled meeting, neutrophil R volunteered to be their representative. Neutrophil R rose quickly to the occasion, affirming that the second-row neutrophils would be the first-liners against microbial pathogens and promising that they would capture and engulf these microbes into a phagosome immediately and, consequently, destroy the enemy with their oxidative and nonoxidative powers [2]. All were tearful with happiness, and the sorority alliance was touched by the determination of the second-row neutrophils who received a cheerful round of applause.

The third row comprised neutrophils 0, 1, 2, and 8, who were determined to be as combative and faithful as their peers in rows one and two in protecting their home environment. They announced that neutrophil 7 would be their delegate. Without any hesitation, neutrophil 7 roared “We are the appropriate modulators of both innate and adaptive immunity and we vow to see that no harm comes to our surrounding tissue” [3].



**Fig. 1.** The three rows of cytology formation by the neutrophils with their “Happy New Year” message.

It was almost midnight, and just before the party ended, neutrophil H reminded the rest of the group about the previous motto, declared in 2004: “In hematopathology, love is everywhere” [4]. All gathered and wished each other a Happy New Year (Fig. 1).

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