To pharmacologically inhibit autophagy, 3-MA was added to the culture medium to induce autophagy. 3-MA is a drug that inhibits autophagy by interfering with the lysosomal enzyme cathepsin D. This drug has been shown to be effective in inhibiting autophagy in a wide range of cell types and has been used in numerous research studies. In this experiment, the researchers added 3-MA to the culture medium to induce autophagy and then measured the effects of rapamycin on autophagy in differentiated PC12 cells.

The results showed that rapamycin treatment enhanced the development of autophagosomes (AVOs) in differentiated PC12 cells. The researchers observed an increase in the number and size of autophagosomes in the cells treated with rapamycin compared to the control group. This suggests that rapamycin may be a potential neuroprotective agent for the treatment of PD.

In conclusion, the results of this study support the idea that rapamycin may be a promising neuroprotective agent for the treatment of PD. Further studies are needed to investigate the mechanism of action of rapamycin in the context of PD and to determine its potential for clinical use.

References: