Flores et al. hypothesized that FPR2 activation by FPR2 agonist Annexin A1 (AnxA1) will enhance hematoma resolution via the upregulation of the CD36 signaling pathway, thereby improving short- and long-term neurological outcomes. Bacterial collagenase (0.3 U) was infused intraparenchymally into the right hemispheric ganglionic eminence in P7 rat pups to induce GMH. AnxA1 and FPR2 Inhibitor (Boc2) were given at 1-h post-GMH via intranasal administration. FPR2 CRISPR was given 48-h prior to GMH induction. Short-term neurological deficits were assessed using negative geotaxis test. Hematoma volume was assessed using hemoglobin assay. Protein expression was assessed using western blots. Long-term neurocognitive deficits and motor coordination were assessed using Morris water maze, rotarod, and foot fault tests. We have demonstrated that AnxA1 treatment enhances hematoma resolution and improved short and long-term outcomes. Lastly, FPR2 agonist AnxA1 treatment resulted in the upregulation of the FPR2/p-ERK(1/2)/DUSP1/CD36 signaling pathway [1)]

1)

Flores JJ, Ding Y, Sherchan P, Zhang JH, Tang J. Annexin A1 upregulates hematoma resolution via the FPR2/p-ERK(1/2)/DUSP1/CD36 signaling pathway after germinal matrix hemorrhage. Exp Neurol. 2023 Jan;359:114257. doi: 10.1016/j.expneurol.2022.114257. Epub 2022 Oct 21. PMID: 36279933.