DESIGN METHODS OF NEW BIOLOGICALLY ACTIVE COMPOUNDS IN THE SERIES OF GABA, GLU AND 2-PYRROLIDONE

Ostroglyadov E.S., Berestovitskaya V.M., Vasil'eva O.S.

Russian Herzen State Pedagogical University, Moika emb, 48, Saint-Petersburg, 191186, Russia, e-mail: kohRGPU@herzen.spb.ru

Increased interest in derivatives of γ-aminobutyric (GABA) and glutamic (Glu) acids and genetically related to them α-pyrrolidone due to their high pharmacological activity and low toxicity. It should be noted that the representatives of these classes of substances are widely presented in the register of medicines: phenibut, baclofen, epilapton, nootropil, phenotropil, levetiracetam and etc[1].

In this report we discuss the original methods of preparation new aryl(hetaryl)substituted pyrrolidonecarboxylates, diastereomerically pure aryl(hetaryl)containing threo-Glu, mono- and disubstituted GABA, 2,4-diaminobutyric acids, new analogs of piracetam and little studied 3,3'-spirobi[2-pyrrolidones]. The latter are valuable precursors in the synthesis of previously unknown N-carboxyethyl- and 2-aminoethyl- GABA and piracetam spiroanalogs. Pharmacological properties of new Glu and piracetam derivatives are protected by patents of the Russian Federation[2-6].

Commercial availability of starting materials, mild conditions, simplicity of hardware design synthesis and excellent yields make developed methods good for scaling and optionally for commercial scale.

References

1 . Mashkovskii M.D. Lekarstvennye sredstva (Drugs). Moscow: RIA "Novaya Volna," 2012.
2. Petrov V.I., Tyurenkov I.N., Bagmetova V.V., Samotrueva M.A., Berestovitskaya V.M., Vasil'eva O.S., Ostroglyadov E.S. *Patent 2429834 RU*, 2011.
3. Berestovitskaya V.M., Vasil'eva O.S., Ostroglyadov E.S., Petrov V.I., Tyurenkov I.N., Bagmetova V.V. *Patent 2437659 RU*, 2011.
4. Berestovitskaya V.M., Vasil'eva O.S., Petrov V.I., Tyurenkov I.N., Bagmetova V.V., Ostroglyadov E.S. *Patent 2440981 RU*, 2012.
5. Berestovitskaya V.M., Vasil'eva O.S., Ostroglyadov E.S., Petrov V.I., Tyurenkov I.N., Perfilova V.N., Sadikova N.V. *Patent 2531080 RU*, 2014.
6. Berestovitskaya V.M., Vasil'eva O.S., Ostroglyadov E.S., Petrov V.I., Tyurenkov I.N., Per-filova V.N., Sadikova N.V. *Patent 2531082 RU*, 2014.

This work is executed at financial support by the Ministry of Education and Science of the Russian Federation within the basic part of state task.