

Correction

Correction: Degradability of Polymers for Implantable Biomedical Devices

SuPing Lyu * and Darrel Untereker

Medtronic Corporate Science and Technology / 710 Medtronic Parkway, Minneapolis, MN 55432, USA; E-Mail: darrel.untereker@medtronic.com

* Author to whom correspondence should be addressed; E-Mail: suping.lyu@medtronic.com; Tel. +1-763-505-4549; Fax: +1-763-505-4712.

Received: 6 September 2012 / Published: 7 September 2012

The authors wish to add a reference [1] in Section 2.2.3 of their paper published in *IJMS* [2]. Therefore, Section 2.2.3 is revised as follows:

2.2.3. Effects of Monomer Sequence

The effect of monomer sequence on degradation rate is more substantial than any other factor. Figure 11 show degradation rates of three different PLAs, a crystalline poly(L-lactide) [1], an amorphous poly(L-lactide-co-D,L-lactide 70/30), and an amorphous poly(D,L-lactide 50/50). As it is shown, the more L-D bonds, the faster the degradation. Similar results were observed in poly(lactide-co-glycolide) copolymers. The conclusion is that the co-polymer bonds have a higher degradation rate than the homopolymer bonds. It is easy to understand why the L-G (G represents glycolide) degrades faster than L-L due to steric effects of the methyl group in L. However it is not clear why D-L degrades faster than L-L. The present authors proposed a concept of collective steric effect. It was speculated that two or more consecutive L groups may work together to affect the degradation rate. It is well known that the side groups affect the conformation of the polymer chains such as the 2nd order structure of protein molecules. Also, the consecutive side groups may have collaborative steric effects. The L-L (and D-D) configuration would have different collective effects from the L-D (or D-L), and these differences may be responsible for the different degradation rates.

References

1. Tsuji, H.; Mizuno, A.; Ikada Y. Properties and morphology of poly(L-lactide). III. Effects of initial crystallinity on long-term *in vitro* hydrolysis of high molecular weight poly(L-lactide) film in phosphate-buffered solution. *J. Appl. Polym. Sci.* **2000**, *77*, 1452–1464.
2. Lyu, S.; Untereker, D. Degradability of Polymers for Implantable Biomedical Devices. *Int. J. Mol. Sci.* **2009**, *10*, 4033–4065.

© 2012 by the authors; licensee Molecular Diversity Preservation International, Basel, Switzerland. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).