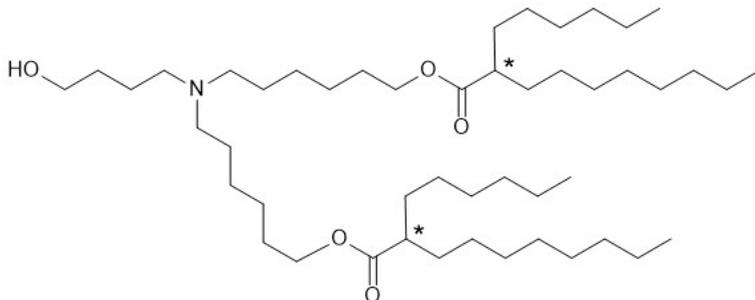


3.2.A.3.1.2. STRUCTURE [ALC-0315]

3.2.A.3.1.2.1. Chemical Structure

The ALC-0315 novel excipient is a cationic lipid containing a tertiary amine and two ester moieties. The chemical structure is shown in Figure 3.2.A.3.1.2-1.

Figure 3.2.A.3.1.2-1. Chemical Structure of ALC-0315



Asterisks (*) indicate chiral centers.

3.2.A.3.1.2.2. Molecular Formula

The molecular formula of ALC-0315 is $C_{48}H_{95}NO_5$.

3.2.A.3.1.2.3. Molecular Weight

The molecular weight of ALC-0315 is 766.27 Daltons.

3.2.A.3.1.2.4. Chirality

ALC-0315 has two chiral centers (indicated by the * in Figure 3.2.A.3.1.2-1). ALC-0315 is a 1:1 racemic mixture of two diastereomers. As such, ALC-0315 is not optically active.