Supplemental Table 1: Proteins involved in lipid synthesis in the mammary gland and their gene expression during lactation

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| **Glycerolipid synthesis** | **Expression during lactation** | **Expression during dry period** |
| **Abbreviation** | **Name** |
| AGPAT1 | 1-acylglycerol-3-phosphate acyltransferase 1 | High | High |
| AGPAT2 | 1-acylglycerol-3-phosphate acyltransferase 2 | Low | Moderate |
| AGPAT3 | 1-acylglycerol-3-phosphate acyltransferase 3 | Moderate | High |
| AGPAT4 | 1-acylglycerol-3-phosphate acyltransferase 4 | Low | Low |
| AGPAT5 | 1-acylglycerol-3-phosphate acyltransferase 5 | Low | Low |
| DGAT1 | Diacylglyceride acyl transferase 1 | High | Unknown |
| DGAT2 | Diacylglyceride acyl transferase 2 | Low | Unknown |
| GK | Glycerol kinase | Moderate | Unknown |
| GK2 | Glycerol kinase 2 | Low | Unknown |
| GK5 | Glycerol kinase 5 | High | Unknown |
| GPAT1 | Glycerol-3-phosphate acyltransferase 1 | High | High |
| GPAT2 | Glycerol-3-phosphate acyltransferase 2 | Low | Low |
| GPAT3 | Glycerol-3-phosphate acyltransferase 3 | Low | Low |
| GPAT4 | Glycerol-3-phosphate acyltransferase 4 | Very High | High |
| PAP1/LPIN1 | Phosphatidate phosphatase 1 | Very High | Moderate |
| PAP2/LPIN2 | Phosphatidate phosphatase 2 | High | Very High |
| PAP3/LPIN3 | Phosphatidate phosphatase 3 | Moderate | High |
| **Transport of lipids and precursors** | **Expression during lactation** | **Expression during dry period** |
| **Abbreviation** | **Name** |
| ACSL1 | Acyl-CoA synthase ligase 1 | Very High | High |
| ACSL3 | Acyl-CoA synthase ligase 3 | High | Moderate |
| ACSL4 | Acyl-CoA synthase ligase 4 | High | Moderate |
| ACSL5 | Acyl-CoA synthase ligase 5 | High | Moderate |
| ACSL6 | Acyl-CoA synthase ligase 6 | Low | Low |
| CD36 | Fatty acid translocase | High | High |
| FABP1 | Fatty acid binding protein 1 | Low | Low |
| FABP2 | Fatty acid binding protein 2 | Low | Low |
| FABP3 | Fatty acid binding protein 3 | Very High | High |
| FABP4 | Fatty acid binding protein 4 | Moderate | High |
| FABP5 | Fatty acid binding protein 5 | Moderate | High |
| FABP6 | Fatty acid binding protein 6 | Low | Low |
| FABP7 | Fatty acid binding protein 7 | Low | Low |
| FABP9 | Fatty acid binding protein 9 | Low | Low |
| FABP12 | Fatty acid binding protein 12 | Low | Low |
| FATP1/SLC27A1 | Fatty acid transport protein 1 | Moderate | High |
| FATP2/SLC27A2 | Fatty acid transport protein 2 | Low | Low |
| FATP3/SLC27A3 | Fatty acid transport protein 3 | Low | Low |
| FATP4/SLC27A4 | Fatty acid transport protein 4 | Low | Low |
| FATP5/SLC27A5 | Fatty acid transport protein 5 | Low | Low |
| FATP6/SLC27A6 | Fatty acid transport protein 6 | Very high | High |
| LPL | Lipoprotein lipase | High | Moderate |
| MCT1 | Monocarboxylate transporter 1 | Very High | Unknown |
| MCT2 | Monocarboxylate transporter 2 | Low | Unknown |
| MCT3 | Monocarboxylate transporter 3 | Moderate | Unknown |
| MCT4 | Monocarboxylate transporter 4 | Low | Unknown |
| MCT7 | Monocarboxylate transporter 7 | Moderate | Unknown |
| MCT11 | Monocarboxylate transporter 11 | High | Unknown |
| MCT13 | Monocarboxylate transporter 13 | Moderate | Unknown |
| MCT14 | Monocarboxylate transporter 14 | Moderate | Unknown |
| SMCT1 | Sodium-dependent monocarboxylate transporter 1 | Low | Unknown |
| ***De novo* fatty acid synthesis** | **Expression during lactation** | **Expression during dry period** |
| **Abbreviation** | **Name** |
| ACC1 | Acetyl-CoA carboxylase 1 | Very high | Unknown |
| ACC2 | Acetyl-CoA carboxylase 2 | Low | Unknown |
| ACS1 | Acetyl-CoA synthetase 1 | High | Unknown |
| ACS2 | Acetyl-CoA synthetase 2 | Very high | Unknown |
| ACS3 | Acetyl-CoA synthetase 3 | High | Unknown |
| FAS | Fatty acid synthase | High | Unknown |