### Table S1. Patient characteristics (IHC)

| NO. | Pathological stage | Lymph node metastasis | Distant metastasis | ER  | PR  | Her2 | Survial |
|-----|-------------------|-----------------------|--------------------|-----|-----|------|---------|
| 1   | 3                 | Yes                   | No                 | -   | -   | +    | Yes     |
| 2   | 1                 | No                    | No                 | -   | -   | +    | Yes     |
| 3   | 2                 | Yes                   | No                 | +   | +   | -    | Yes     |
| 4   | 3                 | Yes                   | Yes                | +   | +   | +    | No      |
| 5   | 1                 | No                    | No                 | -   | -   | +    | Yes     |
| 6   | 2                 | Yes                   | No                 | +   | +   | +    | Yes     |
| 7   | 3                 | Yes                   | Yes                | +   | +   | -    | No      |
| 8   | 2                 | Yes                   | No                 | -   | +   | -    | No      |
| 9   | 1                 | No                    | No                 | +   | +   | +    | Yes     |
| 10  | 3                 | Yes                   | Yes                | +   | -   | +    | No      |
| 11  | 2                 | No                    | No                 | +   | +   | +    | Yes     |
| 12  | 2                 | No                    | No                 | +   | +   | -    | Yes     |
| 13  | 1                 | No                    | No                 | +   | +   | -    | Yes     |
| 14  | 1                 | No                    | No                 | +   | -   | -    | Yes     |
| 15  | 2                 | Yes                   | Yes                | -   | +   | -    | Yes     |
| 16  | 1                 | No                    | No                 | +   | +   | +    | Yes     |
| 17  | 3                 | No                    | Yes                | -   | -   | +    | No      |
| 18  | 2                 | Yes                   | No                 | +   | +   | +    | Yes     |
| 19  | 2                 | No                    | No                 | +   | +   | +    | Yes     |
| 20  | 2                 | Yes                   | No                 | +   | +   | -    | Yes     |
| 21  | 2                 | No                    | No                 | +   | +   | +    | Yes     |
| 22  | 1                 | No                    | No                 | -   | -   | -    | Yes     |
| 23  | 2                 | No                    | No                 | +   | +   | -    | Yes     |
| 24  | 2                 | Yes                   | No                 | +   | +   | -    | Yes     |
| 25  | 2                 | Yes                   | No                 | +   | +   | -    | Yes     |
| 26  | 2                 | No                    | No                 | +   | -   | +    | Yes     |
| 27  | 2                 | No                    | No                 | +   | +   | +    | Yes     |
| 28  | 2                 | No                    | No                 | +   | +   | -    | Yes     |
| 29  | 2                 | No                    | No                 | +   | +   | -    | Yes     |
| 30  | 2                 | Yes                   | No                 | -   | +   | -    | Yes     |
| 31  | 2                 | Yes                   | No                 | +   | -   | +    | Yes     |
| 32  | 2                 | No                    | No                 | +   | +   | -    | Yes     |
| 33  | 2                 | Yes                   | Yes                | +   | -   | -    | Yes     |
| 34  | 2                 | No                    | No                 | +   | +   | +    | Yes     |
| 35  | 2                 | No                    | Yes                | -   | -   | +    | Yes     |
| 36  | 2                 | No                    | No                 | +   | -   | -    | Yes     |
| 37  | 2                 | Yes                   | Yes                | +   | +   | -    | No      |
| 38  | 2                 | Yes                   | No                 | +   | +   | -    | Yes     |
| 39  | 2                 | Yes                   | No                 | +   | +   | +    | Yes     |
|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 40| 3 | No | No | - | - | Yes |
| 41| 2 | Yes | Yes | + | + | Yes |
| 42| 2 | Yes | No | + | - | + | Yes |
| 43| 2 | No  | No  | - | + | + | Yes |
| 44| 2 | Yes | No  | - | + | - | Yes |
| 45| 3 | Yes | Yes | - | - | + | Yes |
| 46| 2 | Yes | Yes | - | - | + | No |
| 47| 2 | No  | No  | + | + | Yes |
| 48| 2 | Yes | Yes | + | + | + | No |
| 49| 2 | Yes | Yes | - | - | - | Yes |
| 50| 2 | Yes | Yes | + | + | - | No |
| 51| 2 | No  | No  | - | - | + | Yes |
| 52| 2 | No  | No  | + | + | - | Yes |
| 53| 2 | Yes | No  | + | + | - | Yes |
| 54| 2 | No  | Yes | - | - | + | Yes |
| 55| 2 | No  | No  | + | + | - | Yes |
| 56| 2 | No  | No  | + | + | + | Yes |
| 57| 3 | No  | No  | - | - | + | Yes |
| 58| 2 | Yes | No  | + | - | - | Yes |
| 59| 2 | Yes | No  | + | + | - | Yes |
| 60| 2 | Yes | No  | - | - | - | Yes |
| 61| 2 | Yes | No  | + | + | - | Yes |
| 62| 2 | No  | No  | + | + | + | Yes |
| 63| 2 | Yes | Yes | - | - | + | No |
| 64| 2 | Yes | No  | + | + | - | Yes |
| 65| 2 | No  | No  | + | + | + | Yes |
| 66| 2 | No  | No  | + | + | + | Yes |
| 67| 2 | Yes | No  | - | - | + | Yes |
| 68| 2 | Yes | Yes | + | - | + | No |
| 69| 2 | No  | Yes | - | - | + | No |
| 70| 2 | Yes | No  | + | + | + | Yes |
| 71| 2 | Yes | No  | + | + | + | Yes |
| 72| 2 | Yes | No  | - | - | + | Yes |
| 73| 2 | Yes | No  | - | - | + | Yes |
| 74| 2 | Yes | No  | - | + | - | Yes |
| 75| 2 | No  | No  | - | - | + | Yes |
| 76| 2 | Yes | No  | + | + | + | Yes |
| 77| 3 | Yes | No  | + | - | - | Yes |
| 78| 2 | Yes | Yes | + | + | + | No |
| 79| 3 | Yes | Yes | - | - | + | No |
| 80| 2 | No  | No  | + | + | + | Yes |
| 81| 2 | No  | No  | - | - | - | Yes |
| 82| 3 | No  | Yes | - | + | + | No |
Table S2.  Partial autophagy-related protein

| Protein | Description |
|---------|-------------|
| LC3    | LC3 is an autophagosomal ortholog of yeast Atg8. A lipidated form of LC3, LC3-II, has been shown to be an autophagosomal marker in mammals. LC3-I is also activated by Atg7, transferred to Atg3, a second E2-like enzyme, and modified to a membrane-bound form, LC3-II. LC3-II is localized to preautophagosomes and autophagosomes, making this protein an autophagosomal marker. |
| p62/SQSTM1 | The p62 protein serves as a link between LC3 and ubiquitinated substrates. p62 becomes incorporated into the completed autophagosome and is degraded in autolysosomes. Inhibition of autophagy correlates with increased levels of p62, suggesting that steady state levels of this protein reflect the autophagic status. |
| Beclin 1 | The mammalian autophagy gene Beclin 1, an ortholog of the Atg6/vacuolar protein sorting (Vps)-30 protein in yeast. Beclin 1 is important for localization of autophagic proteins to a pre-autophagosomal structure (PAS), depending on interaction with the class III type phosphoinositide 3-kinase (PI3KC3)/Vps34. Together they form the Beclin 1-Vps34-Vps15 core complex. Beclin 1 coordinately regulates the autophagy and membrane trafficking involved in several physiological and pathological processes. |
| ATGs  | Atg12 is first activated by Atg7, then transferred to Atg10 and finally covalently attached to Atg5, a process requiring ATP. The Atg12-Atg5 conjugate localises to autophagosome precursors and dissociates just before or after completion of autophagic-vacuole formation. A second ubiquitin-like modification involving the protein microtubule-associated protein 1 light chain 3 (MAP-LC3 or LC3) is required for completion of autophagosome formation. The cytosolic precursor of LC3 is cleaved at its C terminus by Atg4 to form LC3-I.17 LC3-I is covalently conjugated to phosphatidyl-ethanolamine to form LC3-II, a process requiring the activities of Atg7 and Atg3. LC3-II is specifically targeted to the Atg12-Atg5-associated, elongated autophagosome precursors and remains associated with autophagosomes even after fusion with lysosomes, subsequent to which LC3-II is delipidated and recycled. |